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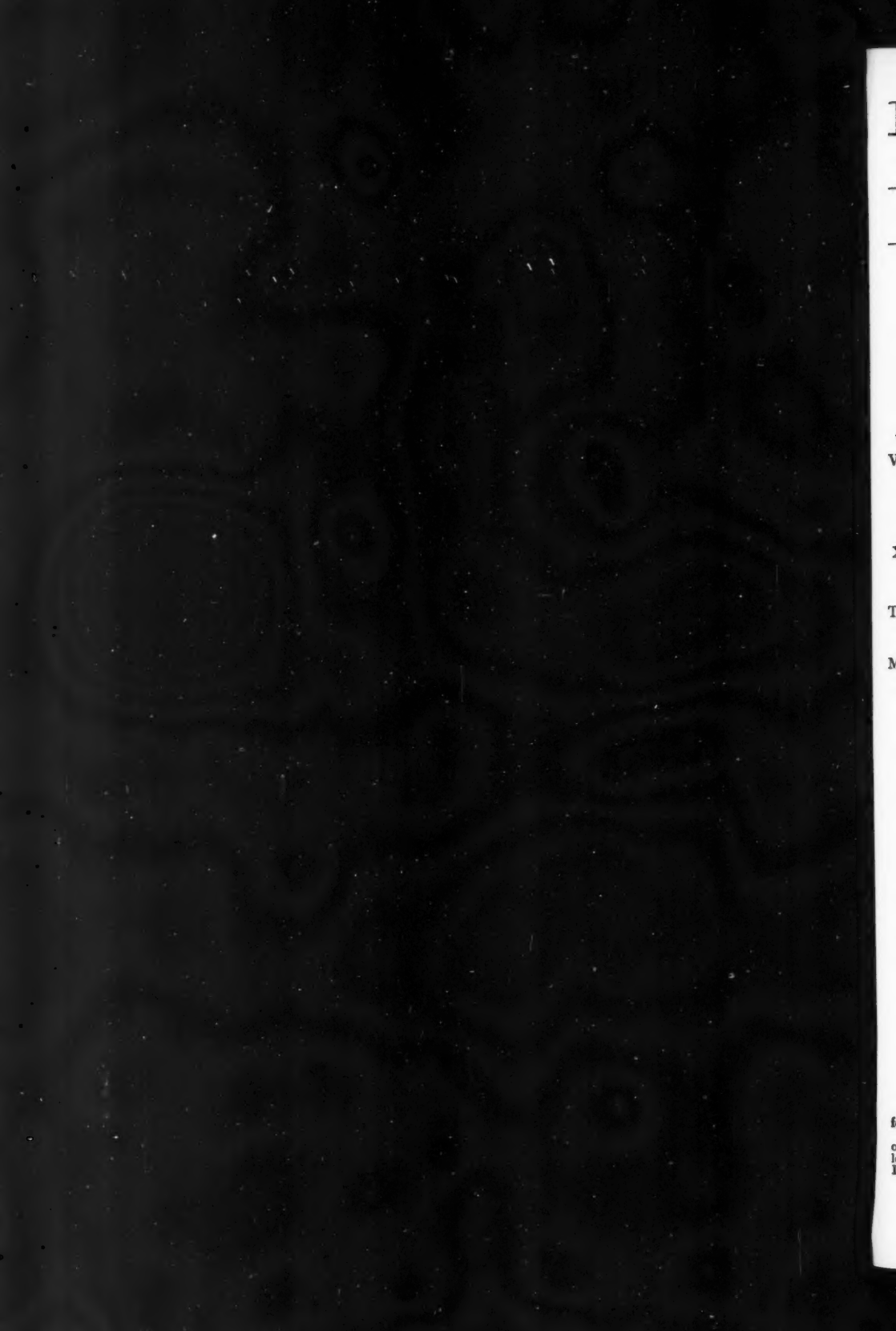
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LITTELL'S LIVING AGE.

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Vol. CLXXVI.

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MY SNOW IMAGE.

I.

I RAISED an image when the snow lay white —
An image fair, with eyes that sparkled bright,
And form that shone serenely through the
night.

The frost was bitter, and the tempest blew
So keen, it pierced the forest through and
through;
Yet still my figure stood, and stronger grew.

At last the breeze blew mild, and sunlight
shone,
When lo, I looked! — my image fair was
gone —
Dead ashes for its feet, its heart a stone.

O Sorrow, was thy lesson told in vain?
Methought, that if I built from care and pain
An image bright, some glory would remain.

II.

Ere long the year to ripeness grew:
Glad swallows through the sunny copses flew,
And where the image stood, bright daisies
blew.

All gone the icy stillness and the snow;
I wandered through the dewy meads, and lo!
Like thawing streams I felt my lifeblood flow.

O snowy image, did I sigh for thee?
The May-blooms hung in garlands from the
tree,
And golden kingcups dappled hill and lea.

No more of ice my handiwork shall rise,
But weaved of sunny light from earth and
skies,
And gleanings gathered in by grateful eyes:

No more of cold contentment or despair,
But steadfast Hope, whose breath shall be a
prayer,
And Love, whose light shall show that life is
fair.

Chambers' Journal. ARTHUR L. SALMON.

THE AUTHOR OF "JOHN HALIFAX, GEN-
TLEMAN."

IN MEMORIAM.

I.

NOT with the fame from silver trumpets
blown,
Nor voice of pastoral reeds that noise
abroad
Some shepherd minstrel's triumph on the
sward

Of Arcady, thy merit shall be known;
Acclaim is theirs who soaring seek a throne
High on the golden peaks, but thou didst
choose

To nest in human hearts, nor ever lose
That dwelling-place; and there to thee was
shown

The mystery of life, the hopes, the fears,
And those desires that madden or make
strong.

Pure were thy lips to cry against the wrong,
And crown with nobler aims our laboring
years.

Sweet influence was thy dower, and fragrance
lies
Round thy departing feet, like Autumn when
it flies.

G.

II.

"Therefore adieu a little while, — à Dieu!
To God we give thee, and to God we lend;
No tears! thou weptst not; but expect us, friend,
In thy far land where the heavens and earth are
new."

SUCH was thy song, when summer walked the
land

Where Arran hills broke high thro' amber
weather;

"Expect us, friend," — and lo! to-day ye
stand
On God's clear hills together!

Oh, true voice hushed; oh, soul, whose stead-
fast light

Shone soft where darkness was, drew hope
from sorrow;

That which to us was starless, voiceless night,
To thee was God's good-morrow!

Thy life rose calm above life's utmost toss;
Thy words spread cheer throughout earth's
utmost travail;

Though heaven's sweet gain is our exceeding
loss,
We may not weep nor cavil.

To God we give thee, though we still shall
keep

Thy woman's story of a man true-hearted;
Life's task is done, but yet across death's
deep

Thy deeds have not departed.

Good Words.

J. H.

A TRANSLATION.

AN ANONYMOUS MODERN GREEK SONG.

COULD you ever near me be
What a blissful life of gladness!
But to part so tries the heart,
Fills it with such utter sadness!
Yet, love, when far from thee,
Why is life, ah! why is life still dear to me?

Just a ring of braided hair
Is the only gift remaining.
Nothing else can comfort me,
Lustreless yet love-retaining . . .

And yet so far from thee
Why live longer? Life no more is dear to me!

Academy.

GEORGE GORDON HAKE.

From The Edinburgh Review.
SIDEREAL PHOTOGRAPHY.*

THE application of photography to astronomical research is rapidly transforming its destinies. The more closely the exquisite sky-prints recently taken at Paris and elsewhere are studied, the more opulent of promise they appear. Their pictorial beauty is the least of their merits. In the eyes of the astronomer their eminent value lies in their capability of exact measurement. Upon this basis of fact rest anticipations which to unaccustomed ears sound exaggerated, but which the future will, unless we are much mistaken, amply justify. We can have no hesitation in admitting that what has been done, not by chance, but on system, can be done again. Results already obtained can be repeated and multiplied. It needs no more—although much more will probably be accomplished—to ensure a new birth of knowledge regarding the structure of the universe.

The scientific importance of Daguerre's invention was perceived from the outset. In formally announcing it to the Academy of Sciences, August 19, 1839, Arago characterized it as "a new instrument for the study of nature," the manifold uses of which must baffle, and would assuredly surpass, prediction. "En ce genre," he added significantly, "c'est sur l'imprévu qu'on doit particulièrement compter."† And it is indeed the unforeseen which has come to pass. Arago himself, with all his readiness to admit incalculable possibilities, would have been staggered by a forecast of the work now actually being done.

* 1. *La Photographie Astronomique à l'Observatoire de Paris et la Carte du Ciel.* Par M. le Contre-Amiral E. MOUCHEZ. Paris: 1837.

2. *An Investigation in Stellar Photography conducted at the Harvard College Observatory.* By EDWARD C. PICKERING. Cambridge, U.S.: 1886.

3. *First Annual Report of the Photographic Study of Stellar Spectra conducted at the Harvard College Observatory.* By EDWARD C. PICKERING, Director. Cambridge, U.S.: 1887.

4. *The Applications of Photography in Astronomy.* Lecture delivered at the Royal Institution, Friday, June 3, 1837. By DAVID GILL, LL.D., F.R.S. (The Observatory, July and August, 1887.)

5. *Die Photographie im Dienste der Astronomie.* Von O. STRUV. (Bulletin de l'Académie Impériale des Sciences de St.-Petersbourg, Tome xxx. No. 4: 1886.)

† *Comptes Rendus*, tome ix., p. 264.

Celestial photography, as was natural, made its first essay with the moon. The broad, mild face of our satellite, diversified with graduated lights and intense shadows, formed a tempting subject for the nascent art. At Arago's suggestion, accordingly, Daguerre exposed one of his sensitive plates to the lunar rays, but with a disappointing result. Nothing worthy the name of a picture made its appearance. Professor J. W. Draper, of New York, however, obtained early in 1840 some little prints, not altogether characterless, of the lunar surface, after which the subject dropped out of sight during ten years. It was resumed at Harvard College Observatory by George P. Bond, one of whose lunar daguerreotypes attracted deserved attention at the Great Exhibition in 1851. The light employed to produce them was concentrated by a telescope fifteen inches in aperture, equatorially mounted, and kept fixed by a clock-work movement upon the moving object to be depicted.

Bond's pictures marked the close of the first or tentative period in celestial photography. In 1851 the collodion process was introduced by Frederick Scott Archer, and rapidly superseded all others. Daguerreotypes, lunar, solar, and terrestrial, began to assume an antiquarian interest and aspect.

Collodion is a colorless, semi-viscous fluid produced by dissolving gun-cotton in a mixture of alcohol and ether. Spread upon glass, it forms a transparent membrane rendered susceptible to the action of light by impregnation with salts of silver. The sensitiveness of these substances is due to their possessing a molecular equilibrium so delicate as to be overturned by the quick ethereal impacts of the vibrations of violet light. The metal they contain, thus partially released from the bonds of chemical combination, is ready to attract further deposits; and the opportunity of exercising this power of appropriation is afforded by the processes of development.* A photograph is hence a picture painted in metallic silver under the regulating influence of light.

* Some kinds of development merely complete the "reducing" process begun by the action of light, without adding any fresh metallic supplies.

Mr. Warren De la Rue was the first to turn Archer's improvement to account for astronomical purposes. He began his photographic work towards the close of 1852 with a thirteen-inch reflector of his own construction which gave him successful pictures of the moon, one inch across, in ten to thirty seconds. Some taken later with improved means bore enlargement to eight inches, and clearly showed details representing an actual area on the moon's surface of about two and a half square miles. The distribution of light and shade in them differed so notably from that perceived with the eye as to afford hints (it was thought) towards a science of lunar geology, formations of different epochs being distinguished by their varying powers of reflecting the actinic rays.* The marked deficiency in chemical power of the so-called "seas," in especial, suggested that they might in reality be plains clothed with vegetation, the vital needs of which were supplied by a dense, low-lying atmosphere.

Mr. De la Rue showed further that, by the stereoscopic combination of two photographs taken at opposite phases of the moon's libration, something might be learned as to the relative age of lunar craters. The deep furrows diverging from Tycho, for instance, were perceived to run right through some craters, but to be overlaid by others.† Obviously, then, the dislocated craters were already in existence when these clefts opened, while the unaffected ones were of later production. With the improved photographic methods now in use, it is quite possible that the real position in Jupiter's atmosphere of the great red spot adhering to his southern belt may in this way be determined; perhaps even indications derived as to the nature of the mysterious Martian canals.‡

The immediate followers of De la Rue in lunar photography were two gifted Americans, Dr. Henry Draper and Lewis M. Rutherfurd of New York. The moon,

as seen with the naked eye, is about one-tenth of an inch in diameter; that is to say, it is just covered by a disc of that size held at the ordinary distance for clear vision.* One of Draper's pictures, taken with a fifteen-inch silvered glass reflector, September 3, 1863, and subsequently enlarged, showed it as three feet across, or on a scale of about sixty miles to the inch. The spectator was virtually transported to a point six hundred miles from the lunar surface.

Reflectors possess the great advantage of being perfectly achromatic; undulations of all wave-lengths are collected by them at a single focus. In refractors, on the other hand, there is always a certain amount of dispersion. Opticians have to choose which rays to unite, leaving the others to shift for themselves. They in general, of course, bestow exclusive attention on those of greatest visual intensity. Ordinary achromatics have hence no sharp chemical focus. Rutherfurd, however, took the more rapid vibrations alone into account in calculating the curves of an object-glass of eleven inches designed expressly for photographic use. He thus set the example of deliberately constructing a telescope totally unserviceable to the eye. By its means were obtained in 1865 lunar photographs which marked the culmination of the art in its second, or "wet-collodion," stage.

Yet the result, striking as it was in some respects, somewhat disappointed expectation in others. The details of structure were not so distinctly given as to serve for a criterion of future change; nor has any lunar photograph yet taken shown the crispness of the best telescopic views. The reason is obvious. Atmospheric shiverings, which the eye can to some extent eliminate, produce their full effect on the sensitive plate. The resulting picture is the summation of a multitude of partial impressions due to evanescent distortions and displacements of the image.

It was perhaps owing to a sense of partial failure that lunar photography fell into neglect during twenty years. Now at last there are signs of revived interest in it. Recent improvements afford great advan-

* Report British Association, 1859, p. 145.

† Monthly Notices, vol. xxiii., p. 111.

‡ The rotation of the planets gives the differences in the point of view requisite for obtaining stereoscopic relief. Photographs taken at intervals—for Jupiter of twenty-six, for Mars of sixty-nine minutes—combine with the proper effect. (De la Rue, Report Brit. Ass., 1859, p. 148.)

* H. Draper, Quart. Jour. of Science, vol. i., p. 381.

tages for its cultivation. Owing to the high sensitiveness of modern plates the images thrown upon them can be strongly magnified, while the time of exposure is still kept extremely short. The MM. Henry have accordingly adopted the plan of photographing the moon in sections, six or eight of which cover the visible hemisphere, and are united to form a map one and a half to two feet in diameter. A repetition of the process at intervals will test the occurrence of variations in lunar topography extending over not less than one and a half square miles.

The finest telescope in the world for the purposes of moon-portraiture is undoubtedly the giant refractor of the Lick Observatory in California. With an aperture of three and a focal length of fifty feet, it gives a direct image of the moon six inches in diameter, negative impressions of which may be enlarged with advantage to perhaps twelve feet. But the third lens, by which the correction of this superb instrument can be modified at pleasure to suit the actinic rays, has yet to be provided; and perfect glass discs of thirty-six inches are not to be had for the asking. They may be bespoke a long time before they are forthcoming.

The sun can now be photographed in the inconceivably short space of the one hundred thousandth part of a second.* A short exposure, followed by a long and strong development, gives the best results; and it is difficult to see how those obtained by M. Janssen at Meudon during the last eight or nine years can be much improved upon. It might, however, be found possible to work on a larger scale. Advantage for the exhibition of details would probably be derived from the use of a solar image more highly magnified than has hitherto been customary.

The historical starting-point of solar photography is a daguerreotype taken at Paris by MM. Foucault and Fizeau, April 2, 1845. The attempt, though not unsuccessful, remained isolated for a number of years. The eclipsed sun was the subject of the next experiment. Busch and Berkowski of Königsberg obtained a slight

but distinct impression of the corona during the total eclipse of July 28, 1851. But the triumph of practically establishing the value of photography as a means of investigating the solar appendages was reserved for Mr. De la Rue and Father Secchi. By the comparison of photographs taken at various stages of the eclipse of July 18, 1860, the status of the "red protuberances" was settled forever. The advance of the moon *over* them proved beyond cavil that they belonged to the sun.

The camera is an encroaching instrument. So surely as it gains a foothold in any field of research, so surely it advances to occupy the whole, either as adjunct or principal. Telescopic and direct spectroscopic observations during solar eclipses are now altogether subordinate in importance to photographic records of them. Fleeting appearances, likely either to escape or to mislead the eye during the lapse of those counted and crowded moments, are stored up for leisurely interpretation; and the whole working power of the mind can thus be devoted to the collection of materials for subsequent discussion. The discovery of a comet close to the sun, May 17, 1882, is a picturesque incident of eclipse-photography. "Tewfik," as the object was named in compliment to the reigning khedive, made its first known appearance to terrestrial spectators during the seventy-four seconds of total obscurity at Sohag. It was caught with beautiful distinctness on Dr. Schuster's plates of the corona, and its place was measured from them; but, for lack of previous or subsequent observations, it must forever remain unidentified.

But we must hurry on, lest time fail us to describe the latest developments of this marvellous art. They are due to improvements of a fundamental kind in photographic processes. Collodion-plates can practically only be used in a wet state. This narrowly limits the time of exposure. Moreover, the preparation of each plate must immediately precede and its development immediately follow exposure — conditions which inconveniently hamper the operations of the astronomical photographer. In 1871, however, gelatine was by Dr. R. L. Maddox substituted for collo-

* Janssen, *Annuaire du Bureau des Longitudes*, 1883, p. 809.

dion, silver bromide being exclusively used as the sensitive substance. The advantages of the new process were quickly perceived and improved. Gelatine is not, like collodion, a merely neutral vehicle. It possesses a reducing power of its own which steps in as an effective auxiliary to that of light. Hence the extraordinary rapidity of the "gelatino-bromide" plates now universally employed. Chief among their recommendation to "astrographers" are the faculties of keeping indefinitely, and gaining fivefold sensitiveness by drying. They can thus be prepared at leisure, exposed with constantly accumulating effect for an unlimited period, and developed when convenient.

Their singular adaptation to the exigencies of celestial research was first perceived by Dr. Huggins, who used "dry plates" in his experiments on photographing stellar spectra in 1876; and his advice and example were followed, a few years later, by Draper and Gould in America, by Common and Janssen in Europe. The change has proved of the highest moment to science.

We have heard much lately of the power and promise of the "new astronomy," and celestial physics have indeed, in our day, entered upon a splendid career. Like "England's great chancellor," it "has taken all knowledge to be its province." No truth regarding the material universe is indifferent to it. It assimilates every variety of information. Scarcely an experiment can be performed in a laboratory without directly or indirectly promoting its interests. The labors of electricians, meteorologists, geologists, mineralogists, chemists, are all made available. No science can be its rival, because each one is its colleague and ally. The results have been commensurate with this vast extension of resources. Knowledge, ample and assured, has been accumulated of a kind which, previous to the middle of the present century, appeared to the profoundest thinkers forever unattainable. Undreamt-of analogies between celestial and terrestrial phenomena have been disclosed. Above all, boundless prospects of future discovery have been thrown open, and the keenest stimulus to persistent effort has thus been supplied.

The new astronomy has accordingly found eager and numerous votaries in all its various branches. Yet its popularity seemed attended by a twofold danger. The majestic elder astronomy—the astronomy of Hipparchus, Bradley, and Bessel, of Newton, Leverrier, and Adams

—might, it was to be feared, suffer neglect through the predominant attractions of its younger, more versatile, and brilliant competitor; or its lofty standard of perfection might become lowered through the influence of workers more zealous than precise, recruited from every imaginable quarter, inventive, enthusiastic, indefatigable, but unused to the rigid requirements of mathematical accuracy.

Both these perils have been happily averted. The prospect has suddenly cleared and brightened. The new astronomy has submitted to bear the yoke of the old. The old astronomy has adopted the new methods, and is even now anxiously fitting them to its own sublime purposes. It has enlarged its boundaries without departing one iota from its principles. By an effort which shows it to be still young and elastic, it has seized the key of the situation, and now stands hopeful and dominant before the world.

This union of the two astronomies has long been in remote preparation. Artists and experimenters innumerable have unconsciously urged it on. It has been promoted by improvements in the manufacture of glass, in the shaping of lenses, in the grinding, polishing, and silvering of mirrors, by the growth of intimacy with the peculiarities of salts of silver, and by the growth of skill in their employment for the purposes of light-portraiture. The meeting last year at Paris of an International Astrophotographic Congress marked its accomplishment. This event will undoubtedly prove to be of the epoch-making description. Future ages will look back to it as the beginning of great achievements. To have been concerned with it will in itself be counted as giving a title to fame. Circumstances concurred to bring it about just at the right moment.

Stellar photography originated with a daguerreotype of Vega (α Lyræ) taken at Harvard College July 17, 1850. The oval shape of an image of Castor obtained about the same time indicated its duplicity; but these impressions were very faint, and none at all could be derived from objects of inferior lustre, such as the pole-star. Then the collodion process was introduced, and with its aid the younger Bond, in 1857, extended the depicting powers of the camera to stars of the sixth magnitude. Still more significantly, he demonstrated the applicability of photography to the astronomy of double stars by executing upon prints of Mizar in the tail of the Great Bear a set of measures which proved superior in accuracy to those

of the ordinary visual kind. He also led the way in photographing what are called "star-trails." When Vega, the clock being stopped, was allowed to "run" upon the plate by its own diurnal motion, its passage remained remarked by a fine line. The principle of "trails" has been turned variously to account in recent investigations.

Rutherford reached the limit, in this direction, of what was possible to be done with wet plates. In and after the year 1864 he secured photographs of a number of clusters, including stars down to the ninth magnitude, from one of which Dr. Gould deduced places for nearly fifty Pleiades, agreeing so closely with Bessel's, of a quarter of a century earlier, as to put beyond doubt the extreme minuteness of the relative motions of those stars. When it is added that quantities of $\frac{1}{10000}$ of an inch were measurable on Rutherford's negatives, it becomes clear that the era of observations "of precision" by photographic means was fast approaching.

With the introduction of dry plates it may be said to have arrived. They were indeed indispensable, no less for charting than for exploring the skies. Photography is of service for these purposes just in proportion to the number of faint stars it can register. But here length of exposure is all-important; and long exposures are impossible with plates subject to change by evaporation.

Impressions on the sensitive plate are cumulative as well as permanent. Those on the living retina are neither. The maximum effect of a luminous object on the human eye is produced in one-tenth of a second. Beyond that limit there is continual effacement and renewal. Were it not for this faculty of rapid obliteration, we should see, with the strangest results of visual confusion between time and space, not what we were actually looking at, but what had met our eyes some short time previously. A vast gain in penetrative power would, however, ensue upon a very moderate extension of the time during which the eye can collect impressions. By lengthening it to one second the brightness of visual images would be nearly decupled, and the whole heavens would appear, like the Milky Way, dimly luminous with minute stars.*

This retentive power is possessed, in an eminent degree, by a sensitive gelatine film. No limits have, so far, been set to the time of useful exposure. Success-

sively, as the rays continue to impinge upon it, all the orders of the stars, all the secrets of the sky, disclose themselves to its patient stare. It has thus become possible to photograph stars too faint to be seen with the same optical aid. Some of those sprinkled over the Orion nebula, in Mr. Common's beautiful picture of it, were probably beyond the reach of direct observation with the 36-inch mirror employed; and Dr. Draper at the time of his death in 1882 was making arrangements for exposing plates during nearly six hours, by which he hoped to get notified of the existence of stars sunk in depths of space hopelessly inaccessible to telescopic vision.*

But the decisive impulse towards the greatest astronomical undertaking of this century came otherwise. The Royal Observatory at the Cape of Good Hope was, in 1882, unfurnished with any photographic appliances. The activity reigning there was of a rigorously orthodox kind. The ample programme of work in course of execution included nothing for which Halley or Maskelyne would have been unprepared. "Astrophysical" tendencies, of whatever description, were absent from it. Nor did any such exist in the mind of the royal astronomer. Dr. Gill belonged to the strict school of Bessel; in the use of the heliometer he was Bessel's legitimate successor. His leading title to distinction at that time was a masterly determination of the sun's distance, for which the opposition of Mars in 1877 had given the opportunity; and he was engaged upon a set of measures for stellar parallax of unsurpassed excellence, and now of standard authority. His energetic administration was mainly directed towards promoting the interests of practical astronomy in the southern hemisphere; and he was far from suspecting that in the camera an instrument was at hand more rapidly effective for the purpose than the transit or the heliometer. He was not, however, slow to avail himself of it.

The splendid appearance, at the Cape, of the great comet of 1882 challenged photographic portrayal; and Dr. Gill employed for that end the apparatus, and profited by the experience, of Mr. Aldis, a local artist. An ordinary portrait-lens, of only two inches aperture and eleven focus, was attached to the stand of the observatory equatorial, the telescope itself serving as a guide to the small corrections

* Janssen, *Annuaire*, p. 809. Paris: 1883.

* Rayet, *Bulletin Astronomique*, tome iv., p. 320.

needed of the clockwork following motion during exposures lasting from half an hour to two hours and twenty minutes. A series of pictures resulted, one of which was exhibited by Dr. Gill in the course of his lecture at the Royal Institution, cited, from its importance to our present subject, among our authorities. They were remarkable, not only for the strength and fidelity with which their principal subject was represented, but for the accessory wealth of stars they displayed. The entire background was thickly strewn with them. Forty or fifty, down to the ninth magnitude, shone across the interposed film of the comet's tail.

The sight of the Cape photographs set the whole astronomical world upon the business of stellar cartography. They emphasized the advantages to be derived from the use of lenses of short focus and wide field, giving small, bright images of tolerably extensive sky-landscapes.* To Mr. Common they "came as a revelation of the power of photography" for star-charting purposes; and he proposed to Dr. Gould, then (in 1883) at Cordoba in South America, a joint photographic survey of the whole heavens, which it was not however found practicable just then to undertake. Investigations of relative stellar brightness by photographic means were almost simultaneously executed by Professor Pickering at Harvard and by Mr. Espin in Lancashire; and Mr. Roberts of Liverpool began, and has made considerable progress with, a detailed chart of northern stars.

But by far the most important of these preliminary enterprises was that of completing, in the southern hemisphere, the great northern star-census executed by Argelander at Bonn above a quarter of a century ago, and lately extended by Schönfeld to twenty degrees south of the equator. The *Durchmusterung*, comprising in its two sections nearly four hundred and fifty-eight thousand stars, may be described as the roll-call of the stellar army. Stars not entered in it have no official existence; should they fade and vanish, the fact cannot be attested; should they brighten into conspicuousness, we are obliged to regard them as "new" for lack of previous acquaintanceship. Whatever is known of the distribution of the stars in space is founded on this grand enumeration, which was besides an essential prelude to more refined measurements.

* Mr. De la Rue showed experimentally in 1861 that such instruments were the most proper for mapping the stars. (Report Brit. Ass., 1861, p. 95.)

A corresponding enrolment of southern stars was one of the most pressing needs of astronomy; and it is now, by novel means, in course of being supplied by Dr. Gill. His photographic *Durchmusterung* will extend from the limit of Schönfeld's zones to the south pole, and will include all stars brighter and many fainter than the ninth magnitude. The requisite number of plates will probably have been secured in two or three years; while the catalogue derived from their measurement, through the disinterested labors of Professor Kapteyn of Groningen, may be completed in five or six. It will give the places (exact to one second of arc) and magnitudes of thirty per cent. more stars per square degree than are contained in the Bonn catalogue, and will furnish "working lists" for still more accurate determinations for about the epoch 1900.*

But we have not yet exhausted the results of the comet-pictures of 1882. Thirty-six years have elapsed since Chacornac began, at the Paris Observatory, the laborious task of charting ecliptical stars to the thirteenth magnitude. His object was the detection of asteroids, by obtaining an individual acquaintance with the small stars strewing their route in the sky; but he died in 1873, leaving the work only half finished. For its completion the resources of the newer astronomy had to be called into play.

His successors were MM. Paul and Prosper Henry, two brothers united by a rare community of tastes and endowments, inseparable in their labors, scarcely distinguishable by fame. In ten years they constructed sixteen additional maps out of a total of seventy-two; but they were arrested by encountering, where the ecliptic crosses the Milky Way, a throng of minute objects, totally unmanageable by the ordinary methods. The perplexity in which they found themselves was dissipated by a glance at the starry background of Dr. Gill's comet. They determined to have recourse to photography; their stars should henceforth register themselves. From that hour visual star-charting became a thing of the past.

The unmistakable success of some preliminary experiments earned for their scheme the warm approval of Admiral Mouchez, director of the Paris Observatory, the title of whose valuable little book heads this article; and the construction of the largest photographic telescope yet seen was officially sanctioned. In

* Auwers, *Monthly Notices*, vol. xlvii., p. 455.

May, 1885, an instrument on a somewhat novel plan, the optical part by the MM. Henry, was mounted in the garden of Perrault's edifice. It consists of two telescopes, one adapted for chemical, the other for visual use, enclosed in a single rectangular tube. The photographic objective is of thirteen inches aperture and eleven feet focus, its curves being computed to enable it to take in a wide area of the sky without sensible deformation of the images. Their complete immobility in the field is secured by a skilful use of the guiding telescope. During the time of exposure the eye of the operator is never removed from it, and incipient deviations are checked by his hand.

The results of the employment of this apparatus by the MM. Henry were summed up by Admiral Mouchez before the Academy of Sciences, January 18, 1887.

At the Paris Observatory [he stated] we now easily obtain, with exposures of an hour, plates upon which thousands of stars down to the sixteenth magnitude are portrayed with the utmost nicety and distinctness over an area of six or seven square degrees. That is to say, the limit of visibility with our best telescopes under the sky of Paris is considerably overpassed, and we have even obtained many seventeenth magnitude stars doubtless never anywhere directly observed. The stellar images, varying in diameter proportionately to magnitude, afford useful data for photometric determinations.

Objects other than stars, invisible in our most powerful instruments, sometimes appear on the plates. Such is the Maia nebula in the Pleiades, depicted like the tail of a brilliant little comet attached to the star, yet heretofore undetected, notwithstanding the exceptional amount of attention bestowed upon the Pleiades group. Unknown bodies, in sufficiently rapid movement to become sensibly displaced in an hour—minor planets, for instance, comets, the problematical trans-Neptunian planet, or undiscovered satellites—may reveal their existence by imprinting the line of their route among the fixed stars, as Pallas has been observed to do.

The distinct visibility, on a photograph submitted to the Academy, of the interval of $0^{\circ}.4$ between the rings of Saturn, gives a prospect of securing impressions of double stars at that apparent distance. The satellite of Neptune has been photographed in every part of its orbit, even when it is only $8''$ from the planet.*

With the consideration before us that stars below the sixteenth magnitude have thus been photographed amid the turbid atmosphere of Paris, it becomes difficult to imagine the prodigious quantity of new objects which would

be disclosed on the plates of the MM. Henry could they be exposed under the pure skies of the tropics, or at so favorable a station as the Pic du Midi. Stars of the eighteenth magnitude would then not improbably emerge to view, showing a penetration of the heavens to depths never before sounded. Such plates would doubtless, at a little distance, like the firmament itself in serene tropical nights, assume a uniformly nebulous aspect. We hope then to apply photography not only to the regular prosecution of celestial chartography, but to researches on double stars, and to explorations in search of unknown heavenly bodies.*

Specimens of the Paris photographs were soon in the hands of astronomers in all parts of the world. They were received with admiration not unminged with incredulity. They seemed too absolutely perfect to be wholly genuine. Abundant evidence was however at hand to show that their extraordinary precision was really the fruit of unparalleled skill, and this conviction, once attained, was decisive of the future of astronomy.

On one of the plates, covering an area of about four square degrees in the constellation Cygnus, where 170 stars had previously been identified, some five thousand were clearly imprinted. Wolf's great map of the Pleiades, founded on laborious observations extending over several years, contains 671 stars; photographs taken in a few hours by the MM. Henry supplied materials for charting 1,421 stars of the same group down to the sixteenth magnitude with an exactitude unattainable by visual means. The significance of such results was not to be mistaken. They pointed to a great task, the execution of which was felt to be imperative so soon as it had become possible; and Dr. Gill gave expression to a universal sentiment when he proposed, June 4, 1886, an International Congress for the purpose of organizing a photographic survey on a grand scale of the entire heavens.

Fifty-five delegates of fifteen different nationalities took part in the deliberations of the memorable assembly which met at Paris, April 16, 1887. They were concluded in nine days, and were as harmonious as they were prompt. Enthusiasm for a great end secured unanimity as to the means; differences of opinion vanished as if under the pressure of some supreme crisis. The upshot of the meetings was to set preparations on foot for the charting of over twenty millions of stars! So far have we got by the aid of photography.

* No visual observations of Neptune's satellite have ever been made at Paris.

* Mouchez, *La Photographie Astronomique*, p. 37.

The co-operation of ten or twelve observatories in both hemispheres can be reckoned upon, and the work will be executed upon an identical plan with instruments similar in every respect to that of the M.M. Henry. About ten thousand plates (duplicated to avoid accidental errors), each exposed during a quarter of an hour, will record the positions of all the stars in the sky to the fourteenth magnitude—the prescribed limit of faintness. This part of the undertaking can scarcely occupy less than five years. For the orientation of each plate, a single “star-trail” (necessarily running along a parallel of declination) will suffice. The *absolute* places of the imprinted stars will be deduced from accurate measurements of their situations relative to certain standard stars, of which a sufficient number will be found on every plate.

But there is to be a catalogue as well as a chart, and, in Dr. Gill's opinion, “the work which astronomers of future generations will be most grateful for, and which will most powerfully conduce to the progress of astronomy, will *not* be the chart but the catalogue.” Plates showing fourteenth-magnitude stars, however, are necessarily over-exposed for the brighter ones, and are hence not available for the most refined determinations. A set of short-exposure plates, reaching to the eleventh magnitude, are accordingly to be taken with a view to cataloguing about one million and a half stars to serve as reference-points for the twenty millions crowded on the chart plates. Such a catalogue (we again quote Dr. Gill) “may be considered complete for the practical purposes of astronomy, because the eleventh magnitude is the faintest which can be measured with accuracy in the larger class of equatorials usually employed in working observatories.”

The mass of stellar statistics thus collected will include data as to relative brightness. The magnitudes of stars can be derived from photographs either by comparing the size of their images on the same plate, or by measuring the time that elapses before they produce a sensible impression. Estimates founded on the circumstance that the diameters of the photographic discs of stars bear a strict ratio to their lustre have proved accurate (on an average) to one-fifth of a magnitude; and varying length of exposure affords the only fixed standard of brightness at present available for the minuter orders of stars. The photometric range of the eye is somewhat narrowly limited, and

large errors attest its incompetence below the eleventh or twelfth magnitude. The sensitive plate, on the other hand, measuring light-intensity as it were by the clock, records its gradations between faint objects more precisely than between bright, because the corresponding intervals of time are larger. Stars of the first, second, and third magnitudes can all be photographed in a small fraction of a second; but stars of the thirteenth magnitude require five, of the fourteenth thirteen, of the sixteenth eighty minutes, before they become perceptible with the apparatus of the M.M. Henry. Intermediate positions on the photometric scale can hence, it is obvious, be assigned much more easily and securely towards its lower end.

A star of any given order of lustre emits just two and a half times as much light as a star of the magnitude next below. One of the sixteenth is accordingly a million times fainter than one of the first magnitude, and under identical conditions takes a million times longer to get photographed. This is the proper and only definite criterion of the rank of such feebly luminous objects, visual estimates of which are little better than guesswork.

It is true that color exercises a disturbing influence owing to the predominant sensitiveness of silver salts to the more refrangible rays. Aldebaran, for instance, is reduced by the fiery tinge of its light to the fifth or sixth *chemical* rank; and small red stars are frequently missing from photographs which display crowds of objects equally or less bright to the eye. Such discrepancies, however, have an interest of their own, and they do not impair the general correspondence between visual and photographic evaluations of brightness. Nor, even when they differ, is there any valid reason for preferring the former to the latter. Both serve as means to the same ends; and chemical determinations are in so far at least to be preferred that they are authentic over a wider range.

Accurate comparisons of stellar brilliance serve two chief purposes—an individual, so to speak, and a general. Taken separately, they are a direct test of variability; taken together, and on an average, they are a safe guide to distribution.

The great problem of the constitution of the sidereal universe is not one to be solved by a stroke of genius. The generations of men are but as hours for its study; each contributes its little quota of gathered facts, and more or less ineffec-

tual thoughts, and goes to its rest only a shade less ignorant than its predecessors. It was Herschel's great merit to have perceived that no reasoning on the subject could stand unless based on a solid sub-structure of statistics; and he even made the attempt by his gauges, or counts of stars in various directions, to supply the needful data. But the information attainable by the labors of an individual was as nothing compared with what must be collected before profitable discussions could even begin. Now at last the requisite materials are, it would seem, about to be provided, and a long pause in the progress of knowledge may be compensated by a leap forward. When the photographic survey of the heavens is completed, conclusions of reasonable certainty on some fundamental points connected with the galactic structure will be within comparatively easy reach.

The mere counting of the stars of various orders on the plates will show whether they give any signs of *thinning out*. Stars of any assigned brightness should, on the supposition of tolerably even scattering, be nearly four times as numerous as those one magnitude brighter. There should be more of them because they occupy a wider shell of space. Thus, a marked scarcity, local or general, of faint stars would afford evidence of an approach to the limits of the system; it would indicate a determinate boundary to the Milky Way.

It is practically certain that such a boundary must somewhere exist. Were the stars agglomerated in the Galaxy infinite in number, they should emit an infinite quantity of light; and (unless on the gratuitous assumption of its extinction in space) our skies should blaze with a uniform and unendurable lustre. But the sum-total of stellar radiations striking the earth is very small. It has been estimated at one-tenth of full moonlight; it is in reality probably much less. The grand aggregate number of stars, however, corresponding to that amount of light comes out, by a recent computation, at no less than *sixty-six milliards*, and the frontier line of the system constituted by them is drawn at the average distance of stars of the seventeenth magnitude.* All this is, of course, largely hypothetical, but it is a certain and a curious fact that we receive much more light from stars invisible than from those visible to the naked eye. All the lucid orbs might, in fact, be withdrawn

without sensibly diminishing the general illumination of the sky.*

The concentration of stars towards the Milky Way appears, from the evidence of Schönfeld's zones, to be far less marked in the southern than in the northern hemisphere.† Photographic statistics will supply the means of deciding whether any such difference really exists. They will, moreover, test the truth of M. Celoria's interesting theory of a double Galaxy. The sidereal world is, in his view, composed of two rings of stars at widely different distances from us, one inclined at a considerable angle to and including the other, the sun being situated in the plane of neither and excentrically towards both. We shall see whether the twenty millions about to be charted conform to this plan.

The movements of the stars, as tending to reveal the laws governing the stellar commonwealth, are of even higher interest than their distribution; but we are still very much in the dark about them. The impending photographic survey will be a preparatory measure for acquiring extended knowledge on the subject. About the year 2000 A.D. the seed planted in our time will have begun to bear fruit. A fresh determination of their places for that epoch will reveal the amount and direction of their changes in the interim. Something of the meaning of those changes can then hardly fail to become legible. Stars associated by a general "drift" can be marshalled into systems; others in specially rapid motion—the so-called "flying" or "runaway" stars—will show their common peculiarities; an inkling of the purpose of the sun's mysterious journey through space may be gained, and its rate and aim, in any case, ascertained; his companions on the voyage may even be picked out. The motion-harmonies of the cosmos will begin to sound intelligibly in the ears of humanity.

But present as well as prospective results may be looked for from the contemplated star-enrolment. Its progress must inevitably be attended by interesting disclosures. Now a new asteroid will stamp its light-track on a plate, or a remote giant planet will be distinguished by disappearance from or intrusion into a duplicate record; a comet approaching the sun will announce itself from afar; stars will show unsuspected nebulous appendages; others, too faint for visual separation, will

* Ibid., p. 409.

† Seeliger, *Sitzungsberichte*, Heft ii., p. 228. Munich: 1886.

* Hermite, *L'Astronomie*, tome v., p. 412.

spontaneously divide on the chemical retina.

Our readers can now to some extent appreciate the importance of securing a trustworthy picture of the sky for a given epoch. But this was not the sole care of the astronomers assembled at Paris. The miscellaneous applications of photography also engaged their attention; and by appointing M. Janssen and Mr. Common as a permanent committee for the purpose of studying and promoting them, they made sure, in this direction also, of rapid progress.

Mr. Common's well-known photograph of the great nebula in Orion, taken at Ealing, January 30, 1883, not only superseded all previously existing delineations of that strange object, but virtually prohibited any such being attempted in future. Changes in its condition, it was made plain, must thenceforward be investigated by a comparison of photographs taken at various dates. No living astronomer has devoted more care to its telescopic study than Professor E. S. Holden, now director of the Lick Observatory. Yet he frankly admits that "every important result reached" by an assiduous scrutiny of four years with the Washington twenty-six-inch equatorial, "and very many not comprised in it, were attained by Mr. Common's photograph, which required an exposure of forty minutes only."*

Since about seven thousand nebulae are now known, the field of research thus entered upon is sufficiently wide. And its cultivation must be largely disinterested. Time, for the most part, will be needed to ripen its results. Some centuries hence, for example, the examination of a "vitrified" picture of a spiral nebula dating, say, from 1890, may reveal alterations of form decisive on some leading points connected with the genesis of worlds.† Posterity will not, however, alone reap the benefit of such labors. Some first-fruits have been already gathered. A photograph by Mr. Common of the central portion of the Andromeda nebula showed that the star which blazed out near the nucleus in August, 1885, had no visible existence a year earlier. It was *not*, then, developed by some sudden catastrophe out of one of the minute stellar points powdering the surface of the nebula, but was new in the relative sense in which alone we can safely use the term.

The discovery of the nebulous condition of the Pleiades, again, has been an almost startling illustration of what may be learnt by sheer perseverance in exposing sensitive plates to the sky. Nearly thirty years ago M. Tempel, an exceptionally acute observer, detected a filmy veil thrown round and floating far back from the bright star Merope; and Mr. Common *saw*, with his three-foot reflector, February 8, 1880, some additional misty patches in the same neighborhood. In general, however, the keen lustre of the grouped stars appeared relieved against perfectly dark space.

Great then was the surprise of the MM. Henry on perceiving a little spiral nebula clinging round the star Maia, on a plate exposed during three hours, November 16, 1885. The light of this remarkable object possesses far more chemical than visual intensity. Were its analysis possible, it would hence doubtless prove to contain an unusually large proportion of ultra-violet rays. It is of such evanescent faintness that its direct detection was highly improbable; but since it has been known to exist, careful looking has brought it into view with several large telescopes. It was first visually observed on February 5, 1886, with the new Pulikowa refractor of thirty inches aperture, and M. Kammermann, by using a fluorescent eye-piece, contrived to get a sight of it with the ten-inch of the Geneva Observatory.

The further prosecution of the inquiry is due to Mr. Roberts of Liverpool. With his twenty-inch reflector he obtained, on October 24, 1886, a picture of the Pleiades that can only be described as astounding. The whole group is shown by it as involved in one vast nebulous formation.* "Streamers and fleecy masses" extend from star to star. Nebulae in wings and trains, nebulae in patches, wisps, and streaks, seem to fill the system, as clouds choke a mountain valley, and blend together the over-exposed blotches which represent the action of stellar rays. What processes of nature may be indicated by these unexpected appearances we do not yet know; but the upshot of a recent investigation† leads us to suppose them connected with the presence of copious meteoric supplies, and their infalls upon the associated stars.

The mechanical condition of globular clusters of stars offers a problem of extraordinary interest and complexity. It

* Photography the Servant of Astronomy, p. 10.

† Mouchez, op. cit., p. 61.

* Monthly Notices, vol. xlvii., p. 24.

† Described by Mr. Norman Lockyer, before the Royal Society, November 17, 1887.

can, however, be usefully studied only by the aid of photography. Take as an example the marvellous agglomeration in the constellation Hercules. The many thousands of stars composing it run together towards the centre, into one unbroken blaze, utterly defying measurement of every kind; while the outlying "grains of bright dust" bewilder the eye so as to incapacitate it for methodical operations.* But from the Paris plates all such separate stars can and will be perfectly well mapped and catalogued. Dr. O. Lohse has since 1884 been working at Potsdam with signal success in the same department; and thus data are being stored up for the future detection of interstitial movements in these complex systems. They must, in general, be extremely minute; and a star in the cluster No. 1440, shown as markedly displaced in eighteen years by a comparison of M. Von Gothard's photographs with Vogel's micrometric measures,† will most likely prove to be accidentally projected upon the cluster, and not to form part of it.

Doubts as to the superiority of the photographic method of measurement for double stars can only arise where the components are considerably unequal. In this case the brighter star, necessarily over-exposed, gives an indistinct and distended image ill suited for precise determinations. The same difficulty impedes photographic operations for ascertaining the parallaxes of large stars. Professor Pritchard has, however, shown conclusively by his successful measures of 61 Cygni that this most exacting problem of stellar astronomy lies for the most part well within the competence of the camera. Its prerogatives in the matter are obvious, and the result of its employment will infallibly be a rapid multiplication of the stars at known distances from our system.

We are far from having reckoned up all the tasks of astronomical photography. They become every year more numerous; their scope widens as we contemplate it, while that of eye-observations dwindles proportionately. Even transits, it appears, can now be taken with increased accuracy on the sensitive plate. It is indeed difficult to set bounds to the revolution in progress by which all the practical methods of celestial science are being swiftly and irresistibly transformed.

The tendency of the camera to usurp the functions of the eye is nowhere more

apparent than in the study of stellar spectra. When Dr. Huggins laid before the Royal Society, December 6, 1876, a little print of the spectrum of Vega,* only a prophetic imagination could have anticipated that, within ten short years, so vast a development would be given to the subject. After the lapse of three years, the same eminent investigator communicated his discovery of the complete ultra-violet spectrum of hydrogen as depicted, dark by absorption, in the analyzed light of Vega and other white stars. This rhythmical series of vibrations, repeated, in varied terms, in the spectra of some metals,† may yet serve as a clue out of the labyrinth of speculation regarding the molecular constitution of matter. None of its nine invisible members occur in ordinary sunlight; but they appeared in a photograph of the spectrum of a prominence taken by Dr. Schuster during the total eclipse of 1882. Their presence would seem to be conditional upon a high state of excitement by heat of the hydrogen atoms emitting them; and their strong reversal in the spectra of Sirius, Vega, and their congeners, almost compels the belief that the photospheres of such stars are more intensely incandescent than that of our sun.

The work to which Dr. Henry Draper devoted his chief energies during the later years of his life was that of stellar spectroscopic photography; and it is now being prosecuted at Harvard College as a memorial to him, and with funds and instruments provided by his widow. "The attempt will be made to include all portions of the subject, so that the final results shall form a complete discussion of the constitution and condition of the stars, as revealed by their spectra, so far as present scientific methods permit."‡ There can be little doubt that, under Professor Pickering's direction, this attempt will be successful. Already superb specimens of photographed spectra have been distributed, obtained by methods so expeditious as to enable stars by the score together to stamp the characters of their analyzed light on the same plate. And in sidereal astronomy, the subject matter of which is all but infinite, the quantity of information collected in a given time is nearly as important as its quality. Hence large expectations from the Harvard researches are justly entertained.

* The first photograph of a star-spectrum showing lines was obtained by Dr. Draper in 1872.

† Cornu, *Journal de Physique*, Mars, 1886.

‡ Draper Memorial, First Report, p. 3.

* Mouchez, op. cit., p. 54.

† Astr. Nachrichten, No. 2777.

The spectroscope supplies information not only about the physical constitution, but about the movements of the stars; and it is safe to say that its messages on this head will henceforth be read almost exclusively by photographic means. The acquisition of power to determine, by the displacement of known lines in its spectrum, whether a heavenly body is moving towards or from the eye, and at what rate, is one of the most considerable of recent additions to the resources of astronomy. Its use as regards the stars, however, has hitherto been hampered by grave difficulties of observation. Small deviations of delicate lines kept continually thrilling and shivering by air-tremors can be but insecurely registered. But on such photographs as Professor Pickering's (once provided with a standard of wave-length) the readings will be sure and easy.

Here we find the natural meeting-place of the old and the new astronomies. Spectroscopy and photography here directly lend themselves to dynamical inquiries, and so help to found the future science of sidereal mechanics. They combine to measure movements otherwise wholly imperceptible. More complete data as to the mutual relations of the stars are thus afforded, and means provided for determining the rate of translation of the solar system by contrasting stellar rates of approach or recession in opposite quarters of the sky. Stars sensibly exempt from visual displacement because the whole of their motion is "end-on" can be discriminated from stars really almost immovable relative to the sun, because associated with it in a journey towards the same bourne in space. The members of the stellar group to which the sun belongs can in this way be identified, and some insight gained into its structure. And all this in the immediate future. For spectroscopic determinations of movement are complete in themselves. They evade the necessity for exact comparisons after the lapse of tedious years or centuries. They tell us at once *what is*.

Astronomical photography includes tasks of all kinds and suited to every capacity. The Baconian principle of the division of scientific labor will by it be brought into full play. One division of workers will devote themselves to the exposure and development of plates, another to their measurement. It may even happen that the first set of operations will be conducted in a different part of the globe from the second, as the Cape photographs are now in course of measurement at

Groningen, and the Cordoba photographs at Boston. The same negatives may be studied by one astronomer in search of new members of the solar system; by another, for the purpose of detecting displacements due to annual parallax or proper motion; by a third, with a view to eliciting facts relative to stellar distribution; by a fourth, for the sake of information latent in them as to stellar variability. In each branch of sidereal astronomy photographic experts will arise skilled in developing the special conditions favorable to success in a special direction. The picturing of nebulae is a totally different art from stellar cartography; double stars require modes of treatment not applicable to clusters; impressions for photometric purposes would be wholly useless for measuring displacements; the obstacles met in depicting stellar spectra are of another order than those which impede the photographic sounding of space.

Several magnificent instruments will shortly be available for photographic use. A "bent equatorial," twenty-nine and a half inches in aperture, in preparation at Paris, will offer particular advantages for lunar and planetary work from the extremely long focus (fifty-nine feet) which its peculiar form enables it to receive. The Lick object-glass will collect nine times as much light as any actually existing photographic telescope.

A single exposure [Professor Holden remarks]* will give us a map of the sky comprising four square degrees on a plate twenty-four by twenty-four inches. A few minutes will impress on this plate a permanent record of the position and brightness of all the stars visible in even the largest telescopes. A comparison of two such plates, taken on different nights, will point out any changes which might easily escape the most minute observation by other methods. The sun's image unmagnified will be six inches in diameter; a large sunspot will be the size of one's finger-nail. Beautiful photographs of the planets can be taken so as to register with perfect accuracy the features of their surfaces. Comets and nebulae can be studied at leisure from their automatic registers, as one studies a copperplate engraving. The variations of refraction from the horizon to the zenith can be made to record themselves for measurement. There is absolutely no end to the problems lying close at hand, and their number and their importance will develop with time. We are merely at the threshold of this subject.

But even the Lick refractor will be beaten out of the field, as regards luminous capacity, by the five-foot silver-on-

* Photography the Servant of Astronomy, p. 10.

glass reflector which Mr. Common is now personally engaged in constructing. Twice as many rays as the other transmits will be concentrated by it, and its other qualities, unless they belie expectation, will correspond to its power. Unfortunately, however, there is another large factor in the account. A bad climate cripples the use of the most perfect instrument. Its size renders it only the more sensitive to atmospheric troubles. And Ealing is half submerged by the fogs of London, while Mount Hamilton, as an observing site, has no known rival in the world.

We have said enough to show that a new and hopeful era is opening for astronomy. It is greeted on all sides with the enthusiasm which the dawning of large possibilities never fails to evoke. The time-honored problem of "how the heavens move" presents itself under a novel aspect. Novel implements of research are being zealously adapted to its requirements. The shrinkage of films, the vitrification of negatives, the distension of photographic star-discs, devices for modifying the qualities of salts of silver, are being studied with the same patient ardor that Bessel brought to determinations of collimation errors or personal equation. There is no longer a new and an old astronomy. The two are fused into one, to the enormous advantage of both. It seems hardly possible to be over-sanguine as to the results.

From The Cornhill Magazine.

A FINANCIAL OPERATION.

It was nearly twelve o'clock on a bright spring morning. Yet Colonel Punter was still busily employed in his bachelor rooms in Piccadilly. The colonel was a fresh-complexioned, somewhat portly man, of about fifty years of age, with grizzled hair and moustache and a vigor of eye and form which, although he had retired, gave ample evidence that he was blessed with plenty of strength and energy, and would be quite ready for hard service should his country require it of him. On this morning he was correcting the proofs of a pamphlet that was shortly to appear, entitled "The Proper Formations in Savage Warfare." This pamphlet was looked forward to in military circles with a good deal of interest, for Colonel Punter was a very well-known man, and was highly thought of as a scientific soldier. He had been at work on these proofs for two

hours, and had just made up his mind that it was time to walk down to his club, when his servant entered the room and, presenting a card, said that the lady would be very much obliged if Colonel Punter would grant her an interview.

"Certainly," said the colonel; then glancing at the card he muttered to himself: "Mrs. Verner—I can't remember ever to have heard the name before. I wonder what she wants." Then, being a kindly and courteous man, he rose from his writing-desk, pushed the proofs away, and took up the newspaper, so that he might not appear to have been interrupted at work. Scarcely had he completed this little manœuvre when the door opened and a lady, well but quietly dressed, was shown into the room. She was tall and graceful, and wore a heavy veil, which, however, on the servant's retiring, she threw back, and, holding out her hand, advanced with a smile, saying,—

"I am afraid, Colonel Punter, you will have forgotten me."

The colonel was quite equal to the occasion and returned her greeting cordially, racking his brains, in the mean time, to think where he could have seen that beautiful, sad face before. It was the face of a woman of about thirty-five years of age, or perhaps a little more, with dark hair and eyes, and an indefinable expression of mirth beneath its sadness, indicating, as it seemed, a lightness of heart which the troubles of the world might have dimmed but could not obliterate. Observing, apparently, the colonel's somewhat puzzled expression, she continued gaily,—

"I see that, as I expected, I shall have to help your memory. Don't you remember Miss Maud Mervyn, when you were quartered at Dover more than twenty years ago? Why, Colonel Punter, you had just got your company then, and we used to dance together at the Dover balls."

"Give me a moment, Mrs. Verner," he replied; "twenty years is a long time for an old man's memory to go back in a flash."

"Now, don't deny it," continued she, laughing. "I see you don't remember me, but I am not at all offended, for, indeed, how should you? I was a slip of a girl then, and you were, if you will allow me to say so, a man of somewhere about thirty. I, no doubt, was an infinitely insignificant person to you then, as, on the other hand, you were a very important person to me. But, you see, I am obliged to plead our old acquaintance, Colonel

Punter, as it is my only excuse for the liberty I have taken in calling on you."

"Excuse of any kind is quite unnecessary," said the colonel with a slight bow and smile.

"It is very kind of you to say so," she replied; "and when you have heard my sad story, I think you will give me the advice which I have come to ask of you."

"If it is a subject on which I am at all qualified to speak," said he, "I shall be most happy."

"I think it is decidedly your subject, Colonel Punter," she replied, "for it is about my son, who is in the army, that I wish to ask your advice."

"Your son—in the army!" exclaimed the colonel with an inflection of voice that was decidedly complimentary to the youthfulness of her appearance. "May I ask his regiment?"

"The 60th Lancers."

"The 60th Lancers!" repeated the colonel. "Why, Mrs. Verner, I know your son. His commanding officer is an old friend of mine, and I have a slight acquaintance with the whole regiment."

"This is very singular and very lucky," said she. "As you know my poor boy's regiment, I think you will be better able to understand and advise on the troubles and difficulties I am in regarding him. Will you let me tell you my sad story from the beginning, or shall I be boring you?"

"Oh, pray don't think so for a moment, Mrs. Verner," said the colonel; and he would have liked to add, "Nothing you could say would bore me," but felt it would be unsuitable to the occasion.

"Well," she continued with a sigh, "my married life was a short and not a happy one. My husband's health was always bad, and for this reason we had to reside abroad. When we had been married two years my husband died and left me alone in the world with an infant boy." She paused and seemed lost for a moment in sad memories, while the colonel glanced sympathetically at her, but thought it well to say nothing. "Well," she continued, "during the last twenty years I have lived almost entirely abroad, but I sent my son to be educated at Eton, and about two years ago he obtained a commission in the 60th Lancers. Words cannot tell what a comfort and joy my son has been to me during my lonely widowhood—I have been so proud of all his school triumphs, I have always been his confidante when he got into trouble. You see, Colonel Punter, I am sadly con-

strained to use the past tense, for I am grieved to say that since he entered the army his manner to me has gradually changed, until now, when I do see him, which is not often, he who used to be all frankness and love is all coldness and reserve—and—and—if this goes on it will break my heart." Here she fairly gave way and covered her face with her hands. Colonel Punter's soft heart was always much perturbed at the sight of a woman's tears. So he kept murmuring in his most soothing accents, —

"Pray, madam, pray calm yourself. I am sure I will do all I can to help you."

In a few minutes she recovered herself and said, —

"You must excuse my breaking down. I know it always vexes a man to see a woman's tears. But I will promise not to do so again, and I dare say you are wondering what you can do to help me in this matter. Well, the fact is, I want to know the worst. I have heard rumors about my son which make me shudder whenever I think of them. I hear that he has given himself out in the regiment as the son of rich people who live abroad, and that he is living in most extravagant style; whereas it is, in truth, with considerable difficulty that his moderate allowance is regularly paid."

"Young scoundrel!" ejaculated the colonel. Then remembering that a son must never be abused to his mother, added: "I beg your pardon, Mrs. Verner, but for the moment my indignation got the better of me. Besides, these reports are, perhaps, not true. I do not know the affairs of the junior members of the corps sufficiently well to be able to give an opinion on the subject."

"Oh, I quite understand that, but do tell me what course I had better take," she said, glancing appealingly at him. "How am I, a helpless woman, to find out whether these dreadful reports are true or not? and yet I feel that I must know the truth or go mad."

After a pause, during which the colonel was evidently lost in thought, he replied: "Mrs. Verner, I promised to do the best I could for you, and I will. I am going down to Aldershot in a few days, and I shall there see Colonel Thompson; from him I will ascertain what reputation for wealth your son has in the regiment. I admit I don't much like the detective part of the business, but I feel that it is a sacred duty to protect a lady in your sad position."

"Oh, how kind of you, Colonel Punter,"

er!" she exclaimed. "This is more than I had any right to expect that you would do for me. But, oh, let me beg of you not to expose my son if these rumors should be true, and let me implore you not to seek an interview with him on the subject. If you learn from the colonel, as you kindly say you will, whether what I have heard is true or not, and would, on your return to town, grant me a few words of advice as to what course I had better take, I should be very grateful."

"I shall be most happy, Mrs. Verner," said he briskly, "but I feel sure that you will find that there is nothing in it after all. Your son, as far as I know him, is a charming young fellow, and quite incapable of the frauds which these accusations impute to him. So pray keep up your spirits, and, if it is convenient to you, let us arrange to meet here at this time on this day week."

The time was quite convenient to Mrs. Verner, and, with many apologies for the liberty she had taken in calling to ask his advice, she departed.

On his journey down to Aldershot the next morning Colonel Punter thought a good deal about his fair visitor of the day before and her troubles. He heaped, moreover, many hard words on the head of young Verner (for, of course, he supposed him, at any rate, partially guilty). "Selfish young rascals, all the lot of them!" said he to himself; "they don't mind a straw how much trouble they bring on their relations, if only they can indulge themselves; and such a charming woman too!" And then he went off into a reverie, in the midst of which he found himself speculating as to whether a man of his age was absolutely and irrevocably too old to marry without making himself look like a fool; and as the train arrived at Aldershot he had just come to the conclusion that there was a good deal to be said on both sides.

That very evening he saw Colonel Thompson, and in the course of conversation managed to ask his questions about young Verner, and found out that, according to Colonel Thompson, Verner was the son of a rich merchant in Singapore, and that his people had not been in England for many years.

"Yes, thank you," said Colonel Punter; "I thought I had heard of his people in England, but I suppose I must be mistaken," and then he changed the subject. He happened, however, just before mess (he was a guest of the regiment that night), to meet Verner by himself, and he sud-

denly resolved, in spite of the widow's request, to say a few words to him. So, stepping forward and addressing the young man in a somewhat constrained voice, he said: "Would you mind taking a turn with me, as there are a few things I should like to speak to you about?"

"I shall be most happy, Colonel Punter," said the young man, wondering what on earth the old boy had to say to him.

No sooner were they well out of ear-shot than the colonel turned short on his companion, and said sternly, "I saw your mother in town yesterday," and then paused to watch the crushing effect of his words. But no crushing effect was visible; on the contrary, Verner answered in accents of mild surprise, —

"You must be thinking of some one else, sir; my mother is at Singapore."

"No, I am not thinking of anybody else," said the colonel, still more sternly; and then added, "So you are going to brazen it out, are you?"

"Brazen what out?" said the young man, apparently thoroughly puzzled.

"You know very well," said the colonel; "and if you don't, you soon will." Then he turned on his heel and walked off.

Young Verner stood for a moment looking after him, then walked away, laughing heartily.

At mess that night he was heard to say to a brother officer: "You know old Punter, who's here to-night?"

"Yes," replied the other, "I know him pretty well. What about him?"

"He was in India a good deal, wasn't he?"

"Yes. Well?"

"Did he ever get a touch of the sun?"

"Dare say he did; most people do out there."

"Well, if he did, it has affected his brain — poor old boy!"

"What on earth do you mean?"

"Why, I mean that the gallant colonel may have his lucid intervals, but when he met me, just before mess, he was as mad as a hatter."

"How mad?"

"Well, he told me that he had met my mother yesterday in London."

"She's at Singapore, isn't she?"

"Yes, and has been for the last twenty years, and so I told him."

"What did he say to that?"

"He said he saw I was going to brazen it out. I said, 'Brazen out what?' and he retorted, with a scowl that would have frightened an elephant, that I knew very well. Then he turned and walked off. I

could not help laughing at the poor old fellow at the time, he was so desperately serious about it all. However, the sun may do the same for me some day, and I really pity him, for he's a very good chap when he's all right."

"Oh, a capital fellow," replied the other, "and can tell a very good story. It's really very sad. I suppose it must have been a touch of the sun, though I never heard of his being odd before."

"He seems all right now, anyhow," said Verner, looking up the table to where Colonel Punter was sitting.

"Oh yes, he's all right now. I'll tell you what, Verner; I have an explanation. The old boy came down from town by a midday train, and I dare say missed his lunch, and what you took for a madman was only a fellow very much in want of his dinner." And the two young men laughingly changed the subject.

A few days after this the colonel was back in town, and found himself dreading considerably the coming interview with the widow. He would have to confirm her worst fears, he was afraid; also, that there would be a scene, and he did not like the idea of it at all. He felt, moreover, that he must appear in the light of a bearer of bad news — a melancholy character which he did not by any means wish to assume in Mrs. Verner's eyes. "However," thought he, "I shall at any rate have an opportunity afterwards of playing the part of comforter and adviser." And this reflection seemed to cause him a good deal of satisfaction. It will be seen, therefore, that the colonel had been somewhat taken (to use the word which he employed in confessing it to himself), or smitten with Mrs. Verner on the one occasion on which he had seen her, and during the few days that intervened between his return to town and the day on which they had appointed to have their second meeting he found himself constantly regarding that future date with the mixed feelings which have been described above.

The appointed day and hour found Colonel Punter seated in his room trying to read the paper, but in reality waiting a little nervously for Mrs. Verner. She did not keep him long. On entering the room she looked keenly at the colonel, and, advancing quickly, said in rapid, anxious accents, —

"Oh, Colonel Punter, don't keep me in suspense; is it true?" Then seeing his blank look she cried out, "It is, and he is dishonored." Then she sank into a chair and burst into tears. This the colo-

nel had prepared himself for, so in his most winning accents he implored her to compose herself. This in a few minutes she partially succeeded in doing, and immediately proceeded to cross-examine him as to what he had found out and done at Aldershot; how there was no doubt in the regiment as to young Verner's being the son of rich people at Singapore, how the colonel himself had told him so, and how he (Colonel Punter) had in a fit of indignation spoken to the young man himself. For this she mildly upbraided him, reminding him of her request, and the colonel deprecated her wrath and pleaded sudden impulse. When the story was finished she rose, and, smiling sadly through her tears, said, —

"I don't know how I can sufficiently thank you for your kindness to me, Colonel Punter. You have indeed been a true friend, and I should like above all things, if you will allow me, to ask your advice as to what I had better do in this sad matter; but, indeed, I feel quite incapable of doing so on this occasion. Hearing that these terrible reports are true has, as you have seen, upset me very much, and I think I had better go home now; but if you will allow me to fix a future interview by note, when I feel less unequal to the effort, you will add one more to your many kindnesses."

The colonel very readily consented, and in another moment she was gone, and with her, so it seemed to our gallant friend, all light and beauty departed from the room. From that moment, too, though he would hardly have confessed it to himself, he began looking forward to the day when he should see that note upon his table.

A fortnight had elapsed since the interview above detailed, but Colonel Punter had not yet received the expected note. He had not given up hope, but still he was undoubtedly depressed, and whether it was an effort to throw off this dejection which had induced him to accompany his friend Captain Jones to the Variety Theatre, or whether impelled by fate, or for whatever reason, we will not stop to inquire, but at any rate in that theatre, and comfortably ensconced in two stalls, sat Colonel Punter and Captain Jones on this evening, some of the events of which are about to be related.

The curtain had just fallen on the first act, and the house, till that moment wrapped in gloom, suddenly sprang into light. Then, as if by common consent, every man, woman, and child in that great audience, with a want of manners that

would be permissible nowhere else, but which is quite conventional between the acts of a play, commenced, with or without opera-glasses, to scrutinize his or her neighbor. For a few seconds the colonel had a discussion with his friend as to whether there was time for a cigarette between the acts. This was promptly decided in the negative, and both officers, grasping their glasses, proceeded to join in the general inspection.

With a calmness born of long habit, Colonel Punter was sweeping the house, when suddenly his arm dropped and his gaze became intently fixed on the occupants of a box on the right of the stage; these consisted of two gentlemen and a lady, and the lady was Mrs. Verner. On this point he had no doubt whatever, though he looked at her with ever-increasing surprise, for she was in very full evening dress, and was extensively bewellied. She was, moreover, at this moment, talking and laughing loudly, not to say boisterously, with her companions, both of whom the colonel mentally and unhesitatingly pronounced to be cads. At this juncture, Mrs. Verner, turning her head suddenly, caught sight of Colonel Punter staring at her from the stalls; the moment their eyes met he bowed, and she also bowed slightly and smiled; then, turning to her companions, she seemed, from their uproarious laughter, to be telling them a more than usually good story. Captain Jones had observed the mutual recognition pass between his friend and the lady in the box, and was greatly astonished.

"Why, colonel," he said, "do you know her? You don't mean to say that you have had to go to the Hebrews, like younger men?"

"Yes, I know her. But what on earth do you mean by asking whether I've been going to the Hebrews?"

"Well, I think it was a very natural question, under the circumstances."

"I don't know what you are talking about. Who do you think that lady is, then?"

"I don't think at all, colonel. I know that she's Mrs. Hart Moss, the female representative of one of the biggest money-lending firms in town; and they tell me she's a very good hand at the business."

Colonel Punter made no reply, but became plunged in a deep and apparently distressing reverie, for he clenched his fist and almost ground his teeth, until he attracted the attention of Captain Jones, who had, in the mean time, been nodding

recognitions to some people of his acquaintance.

"Why, colonel," said he, "what's the matter? The sight of that Mrs. Moss seems to have disagreed with you awfully. Whom did you mistake her for?"

"It has disagreed with me," said the colonel grimly, "but I see it all now. What you say, Jones, is quite true; she is a very good hand at her business." Then suddenly his countenance brightened somewhat, and he added, —

"Come and have something at the club after the play, and, if you will swear secrecy, I will tell you the whole story."

And he did tell Captain Jones every detail, finishing the narrative with these words: "So you see she made a regular catpaw of me, in order to find out if Verner was worth powder and shot. I suppose, as his people live abroad, she found difficulties in the ordinary methods of procedure."

"I expect that you're about right, colonel. By Jove! she's a clever woman!"

"I wonder she had the audacity, though," said our gallant friend, his anger boiling up again for a moment. "Why, I might make the whole matter public."

"She knew you wouldn't, though."

"And she's quite right," said the colonel, "for I won't."

From Blackwood's Magazine.
CÆSAR BORGIA.

II.

THE DUKE OF ROMAGNA (1499-1504).

THE marriage which Cæsar had contracted at Blois, under the auspices of the king of France, on the 11th of May, 1499, was the pledge of an alliance which had important consequences for the Holy See and the Most Christian king. It was the prelude to the second descent of the French into Italy and the conquest of Romagna by the son of the pope. From this time forward the Cardinal of Valencia exists no longer — he has made way for the Duke of Romagna.

The Borgia family was the ruin of all that came in contact with it. The new Duchess of Valentinois, Charlotte d'Albret, daughter of Alain d'Albret, Count of Dreux and Duke of Guienne, the sister of Jean d'Albret, who had become king of Navarre by his marriage with Catherine of Foix, was to be sacrificed without

mercy, almost as she left the church. Her father, Alain, had shown some repugnance to the marriage. He knew well that the king of Naples had previously rejected the proposals of the Holy See, declaring that he would never marry his daughter to "a priest, son of a priest," and he felt the same scruples as that monarch had entertained. He had insisted on seeing and touching the original document in which the papal decision was given on the question of the secularization of the Cardinal of Valencia. Even when he had satisfied himself on this point, King Alain had shown unyielding obstinacy on the question of the dowry, and insisted on an endless succession of guarantees. He finally yielded, however, to the personal representations of the king of France and of Anne of Brittany, whose own interests were at stake; for should Cæsar's marriage not take place, and the pope consequently refuse the dispensation necessary for her own marriage with Louis XII., she would be no longer the queen of France, but only the king's mistress.

Cæsar arrived in France, and Charlotte, "the fairest maiden in the kingdom," met him for the first time at Chinon, in April, 1499. On the 11th of May following he led her to the altar at Blois, and a few months afterwards he took an eternal farewell of her. The young princess had a moment of happiness in the arms of the man of whom the historian Gregorovius could say, "Like Tiberius in the days of old, he was the handsomest man of his time." Her illusion only lasted a short while, but there remained to her a living memorial of those happy days. In the spring of 1500 she brought into the world a daughter, Loyse, who never knew her father. The Duchess of Valentinois left the brilliant court of France where she had been brought up, and lived the life of a recluse with Joan of France, the repudiated queen; it was in the palace of Bourges—a palace resembling a cloister—that she heard in succession of the triumphs of the Duke of Romagna, of his captivity, his escape, and his death. She died like a saint at the age of twenty-five. Her daughter, Loyse Borgia, married, in 1517, Louis II. de la Trémoille, Vicomte de Thouars, and Prince de Talmont, called "the knight without reproach," at his castle of La Motte-Feuilly, and after his death married again a member of the Bourbon-Busset family. Some traces of her future career can be found in the history of the time; and while turning over the correspondence of the house of Este,

in the archives of Modena and Mantua, we have found letters in which she sends greetings to her aunts, Lucrezia Borgia, Duchess of Ferrara, and Isabella of Este, Marchioness of Mantua.

In the autumn of 1499 Cæsar Borgia, without caring for the new ties he had formed, or once looking back, threw himself into a fresh enterprise, and crossed the Alps with the French army. The treaty, signed by the Vatican and the court of France, stipulated for a reciprocity of military services between the two powers. If the Holy See, of which Cæsar was the direct representative in the ranks of the French army, assisted Louis XII. to retake the Milanese territory, and shut its eyes to the proceedings of the king of France with regard to the Neapolitan kingdom, then Louis XII., in return, was to supply the pope with the means of reducing to subjection the lords of the cities of Romagna who had gained their liberty.

The Duke of Valentinois had but a small part to play in the Milanese campaign. It is easy to see that Louis XII. had more need of the neutrality of the Holy See than of its active support. Besides, the king did not himself take part in the campaign, the conduct of which was entrusted to his generals, D'Aubigny, Ligny, and Trivulzio, but contented himself with awaiting the result at Lyons. The French entered Milan on the 6th of September, 1499; Louis reached it on the 6th of October. Baldassar Castiglione, the celebrated author of the "Cortigiano," who had come to Milan with his master, the Marquis of Mantua, to assist at the reception of the king, shows us the Duke of Valentinois displaying at the monarch's side that ostentation and luxury which had once already given offence to the French nobility on the occasion of his entry into Chinon. Lodovico, "il Moro," having once been driven out of his dukedom of Milan, and possession taken of it, the king was anxious to return to his kingdom, but Cæsar insisted on the execution of the treaty before his departure, and declared, his purpose in distinct terms, though he concealed his schemes of conquest under the cloak of a simple reduction of the barons of Romagna to dependence on the Holy See. The king of France, who cared little for the fate of the lordships of the Adriatic, loyally fulfilled his engagements, and gave the Duke of Valentinois three companies of lances under one of his most skilful captains, Yves d'Allègre, and four thousand mercenaries—Swiss, Gascons, and Burgundians—under the

leadership of the Bailiff of Dijon. With the pontifical troops and the levies raised for the occasion, these auxiliary forces made up an army of sixteen thousand men ready to commence operations in Romagna.

Alexander VI. on his side had not been inactive. He had taken advantage of the previous invasion of Italy by Charles VIII. to destroy the power of the Roman barons, whose feudal fortresses overawed Latium and held the whole of the Roman Campagna in subjection, and whose officers and dependants, with whole armies at their orders, held the Vatican in check. The second expedition of the French into the Milanese territory now allowed him to complete his work. By craft, violence, or treachery, Alexander had succeeded in drawing the wealthiest barons to Rome: these he had ruined, banished, or put out of the way by murder or imprisonment, while, to cover his acts of spoliation with a show of legality, he had procured a decree of the Apostolic Chamber confiscating the possessions of the Colonna, the Orsini, the Gaetani, the Savelli, and the Magenza families, as rebels against the Holy See. Carrying dissimulation and falsehood to the extreme, Lucrezia Borgia had become the purchaser of the greater part of these possessions in a public auction, of which she never paid the expenses. Her little son, Rodriguez, though only two years old, already bore the title of Duke of Sermoneta (which still belongs to the head of the Gaetani family), and had received twenty-two cities as an appanage to the title. Gioffre, Sancha, and the other children of the pope had shared these spoils among them; and a mysterious personage, hardly out of his cradle yet, Giovanni Borgia, the pope's son by his new mistress, Giulia Farnese (acknowledged at a later period by the pontiff, but at first registered as the son of Cæsar), received out of this grand measure of spoliation thirty-six towns, taken indifferently from the possessions of the different barons.

Such was the work which Cæsar found completed on his return from France and from the short Milan campaign, when, on the 18th of November, 1499, he came secretly to the Vatican to receive his father's final instructions before undertaking his own expedition against the barons of Romagna. Continuing the same policy and the same fiction of judicial action—it was one of the characteristics of Alexander VI. to cover his most monstrous acts with a cloak of legality—the pope, before formally committing the direction

of the military operations to his son, at a special meeting of the Consistory, in the name of his apostolic authority, declared the "Vicars of the Holy See" who ruled at Rimini, Faenza, Imola, Forlì, Cesena, Pesaro, Camerino, and Urbino, deposed from their fiefs, and passed a decree charging them with: not having paid the tribute due to the Holy See for a number of years. In vain did these princes, who had been practically hereditary for more than a century, and had not sought investiture either at the hands of the pope or at those of the emperor,—in vain did they, in face of the danger which threatened them, offer to recognize the supremacy of the pontiff and to pay the arrears of tribute; Cæsar had commission to enter their states, and either to receive their voluntary cession or to incorporate them by force in the domain of the Church. The army was ready, and it only remained to find the necessary resources to provide for its pay. Considering this enterprise as a work of piety, the Apostolic Chamber borrowed five thousand ducats of gold for the purpose from the municipality of Milan.

The general plan of the young leader, who was by this means to conquer a principality for himself, is not at first sight obvious, and historians have seen ground for doubting whether there really was any one grand conception kept in view throughout the detached operations, undertaken as occasion served, which resulted in three campaigns, from 1499 to 1503. Still, if we follow carefully Cæsar's progress on the map of Italy, bearing in mind the obstacles he had to avoid (for in proportion as he becomes more formidable, and, by extending the limits of his domain, gives some indication of the goal at which he is aiming, he begins to arouse the suspicions of the neighboring powers), we comprehend how he was "eating the artichoke leaf by leaf," as he said in jest, and never acted at random, but always opportunely. Starting in the beginning of the winter of 1499, he at first advanced rapidly towards the north. His intention being to strike a blow at the neighbors of Giovanni Bentivoglio, lord of Bologna, he was careful to reassure that potentate as to any fears he might have on his own account, reserving to himself the liberty of turning on him at a later period. He then took energetic measures against Imola and Forlì, and turning back from thence, made his way, sword in hand, to the very heart of Italy, adding town to town and province to prov-

ince, and dethroning in succession the last Sforza, the Malatesta, the Manfredi, and the Montefeltre. Once master of the Adriatic coast from Rimini to Sinigaglia, and in possession of the duchy of Urbino, of Camerino, and Cagli, he assured his communication with Rome through Spoleto, of which Lucrezia Borgia was regent, and pursuing his work by way of Umbria, Sienna, and Perugia, by Pisa, which called him in of her own accord, and by the principality of Piombino, from which he expelled the rulers, he barred the approach to Rome to the Tuscans, and established a strategic line of communication between the Adriatic and the Mediterranean. He then formed his united conquests into a single state, selected Cesena as provisional capital, received the investiture from his father, and assumed the ducal crown. Next year he threw aside the mask and attacked Bologna, a city of greater size and importance than Cesena, and drawing closer the circle with which he had surrounded the Tuscans, at last ventured to threaten Florence itself, until his progress was checked by nothing less than a formal command from the king of France, who, having let loose this plague upon Italy, found it extremely difficult to arrest it again.

Was Cæsar merely going straight before him, led by the insatiable ambition which lays hands upon all within its reach, or was he aiming at a distinct end, at the realization of a vast conception? Granting that he had no dreams of reconstituting the kingdom of central Italy himself, Florence at least felt herself threatened. As long ago as his first campaign, when, after making himself master of Imola and Forlì, he was still besieging Cesena preparatory to his entry into Pesaro and his progress to Rome by way of Urbino, the Florentine republic had sent Soderini on a mission to him, to find out his intentions and his terms. The following year, with increased anxiety, as she felt herself approached more closely through the taking of Arezzo, which had fallen into the hands of Cæsar's troops, she sent him Machiavelli, the most clear-sighted of her secretaries. The spectacle of these two champions face to face is one unique in history. From the day when he arrived in the camp, Machiavelli, who had recognized in the Duke of Valentinois a terrible adversary, felt that it was of vital interest to the State that he should not lose sight of him for a moment. As a point of fact, he never left his side up to the day when he saw him hunted down like a wild beast,

vanquished by destiny, fettered beyond all power of doing harm to any one.

Of course we may refuse to accept the verdict of the secretary of the Florentine republic. Gregorovius, the celebrated author of the "History of the City of Rome in the Middle Ages," goes so far as to say that it is a reproach to the memory of the founder of political science that he made a blood-stained adventurer like Cæsar the "Italian Messiah"—the precursor, in a word, of Italian unity. Again, P. Villari, in his fine work "*N. Machiavelli e suoi tempi*," says that the Florentine secretary, though he was an eyewitness of the actual deeds of Valentinois, made of him an imaginary personage, to whom he attributed the great ideas by which he himself was animated. Still we have a right to point out that in history purpose is controlled by action. A great number of the heroic deeds and of the portentous decisions which have determined the lofty destiny of empires have not been the consequence of long premeditation; they have often been the result of the passions and desires of mankind, or simply that of the need of action natural to a vigorous mind. Undoubtedly the immediate object of Alexander VI. was the aggrandizement of his children, and the increase of their territory; he cared only for the power of the Church inasmuch as it augmented that of his own family, but the deeds accomplished by father and son contributed none the less to reconstitute the temporal dominion of the Church,—a work which, after its completion by Julius II., was destined to continue for more than three centuries, from 1510 to 1860. The ambitious Cæsar himself was turning aside the current for his own particular advantage. When Julius II. assumed the triple crown, the officers who held the fortresses of Romagna with one accord refused to give them up to the Church, considering them as the lawful conquest and personal property of their leader. Machiavelli looked only at the results; this is the justification of the opinion which he expresses concerning Valentinois in his book, "*Il Principe*," in the "*Legazione*," the "*Descrizione dei fatti di Romagna*," and the "*Decennale*." He was present when these things were done; he calculated the effect of the events he witnessed. From his observation of Cæsar at work, he noted the strength of his will and the resources of his mind, his strategic talents and his administrative faculty; and as within certain limits the acts of Valentinois tended towards a distinct goal, an ideal not unlike

that at which he himself aimed, the Florentine secretary was not the man to be squeamish about ways and means. What did it matter to him whose hand struck at the despots of the petty principalities of Italy? What cared he about the personal ambition of the man who, after overthrowing them, busied himself at once with the organization of their states, gave them laws, kept them under stern discipline, and ended by winning the affections of the people? Once the idea of union was accepted, a prince of more blameless private life would succeed Cæsar, and there was always so much progress made towards the realization of the great conception. The Sforza had fallen; the princes of the houses of Este and Mantua were not equal to such a task; Lorenzo di Medici was no soldier. Impatient to reach his end, Machiavelli cast his eyes around in vain; nowhere could he find a personality capable of great undertakings. Cæsar alone, with his youth and daring, quick to seize an opportunity, free from scruples, imposing by his magnificence—Cæsar, who always went straight to the very core of a matter, a consummate soldier, full of high purposes and lofty schemes—seemed the one man capable of aiming at the goal and attaining it. From that time forward, the secretary made him the incarnation of his ideal prince, removing from his character the hideous elements which lurked beneath the fair exterior of the skilful diplomat and hardy soldier.

Of these "high purposes" of which Machiavelli speaks we have also other proofs, without speaking of the, in a manner, prophetic declaration of the young cardinal who, at twenty, fixed his eyes on the example of the Roman Cæsar, and took as his motto, "CUM NUMINE CÆSARIS OMEN." Some of the contemporaries of the Duke of Valentino have expressed themselves in distinct terms regarding him. We have here some real revelations of his personal intentions which are free from the *après-coup* of the judgments pronounced by later historians. Speaking of the war which the Spaniards were carrying on to prevent the pope from extending his dominions beyond the Neapolitan frontier, Signor Villari recognizes the fact that Alexander VI. had declared his intention of making Italy "all one piece." As for Cæsar, we read in the despatches of Collenuccio, the ambassador of Ferrara, that Francesco Maria, duke of Urbino, had taken into his service a secretary who had been for some time in Cæsar's em-

ploy, and that this person averred that he had heard the Duke of Romagna say that he had "deliberately resolved to make himself *king of Italy*." Here we have it in so many words.

As regards Machiavelli, could we collect in one page all the traits of character sketched from nature, scattered here and there in his despatches to the Florentine Signoria, we should have a literary portrait of Valentino, signed with the name of the most sagacious observer that ever honored Italian diplomacy. Cæsar had never learned the art of war, yet it would be impossible to pass with greater facility from the Consistory to the camp than he did. He was no mere warrior. Brave and impetuous as he was, he had more serious work in hand than the exchanging of sword-thrusts. He was at once a general, a strategist, and an administrator. Hardly had he taken a town when he made laws for it, and organized its administration; the breaches in its fortifications were repaired, and its defence and retention made as safe as if the conquest were final. No sooner had Imola, Forlì, and Cesena fallen into his power, than he sent for Lionardo da Vinci to provide for a sufficient supply of water, to repair the fortresses, and to erect public monuments. He founded Monts de Piété, set up courts of justice, and did the work of civilization everywhere. The cities which fell under his sway never misunderstood his efforts; they looked back on the time of his supremacy with regret.

This lord is ever noble and magnificent; when his sword is in his hand, his courage is so great that the most arduous undertakings seem easy to him; in the pursuit of glory or advantage he shrinks from no toil or fatigue. He has the good will of his soldiers; he has secured the best troops in Italy: it is thus that he makes himself formidable and victorious. Add to this, that fortune is constantly favorable to him. He is of solitary habits, and very secret (*molto segreto*). He controls himself with prudence; he possesses craft, promptness, the spirit of order, and good fortune; he has an extraordinary power of profiting by opportunity (*gran conoscitore della occasione*).

So Machiavelli warned the Florentines not to treat Cæsar "like the other barons, but as a new power in Italy, with whom they might conclude treaties and alliances, rather than offer him an appointment as *condottiere*." The purely military element, which was Machiavelli's speciality, did not escape the attention of the secretary. Once he had found the right man, the next requisite was the proper fool to work

with — that is, the army; and so, when he saw these well-disciplined battalions, and the perfect order that reigned among them, the system of supplies secured by treaties, the regular equipment, and, above all, the formidable artillery, “in which department Cæsar alone is as strong as all the sovereigns of Italy put together,” — the secretary of the republic recognized in Cæsar a born commander, for whom he prophesied the most lofty career.

Cæsar's life was very short, and the vicissitudes of his fortune followed each other in rapid succession. In youth he was a murderer, in youth a conqueror, and in youth he died. His period of activity as a general extended from the autumn of 1499 to April, 1503, and his actual reign as Duke of Romagna lasted only two years. On the 26th of January, 1500, having accomplished the first half of his task, he entered Rome as a conqueror — on which occasion a representation was given of the triumph of Cæsar, with the various episodes of the life of the Roman Cæsar shown in *tableaux vivants*, suggested by the painter Mantegna. Eleven allegorical cars started from the Piazza Navona, Borgia himself, crowned with laurel, representing in his own person the conqueror of the world. Before his departure for his second campaign, he had, as we have already seen, caused the assassination of Lucrezia's second husband, Alfonso de Bisceglie, to prepare for the third marriage of his sister, who was this time to become duchess of Ferrara, and thus secure him an alliance which would forward his projects as Duke of Romagna. On the 27th of September, 1500, he left Rome again to complete his work, but returned quickly to take part in the war which the king of France had carried into the Neapolitan kingdom, when he possessed himself of the city of Capua, thus acquitting his obligation towards his protector, Louis XII. On the 29th of November his father changed his title of Vicar of the Holy See to that of Duke of Romagna.

The year 1503 proved an eventful one for him. No longer contented with his duchy, he prepared to attack Bologna and to threaten Florence. The day before he set forth on this great undertaking, on the 5th of August, he assisted, together with Alexander VI., at a banquet given in the vineyard of the Cardinal of Corneto, at the gates of Rome. On their return both were taken ill so suddenly that the cardinal was suspected of having poisoned them. The old man breathed his last on the 18th of August. Cæsar, younger

and more vigorous, struggled against his malady with extraordinary energy. He wrapped himself, as in a cloak, in the still quivering carcase of a newly disembowelled mule to overcome the shiverings brought on by fever, and then was thrown, still covered with blood, into a vessel of iced water, to bring about the reaction necessary to save his life. This man of iron seemed to prevail against nature herself. He knew that, once his father dead and himself unable to move, all his enemies would rush upon him at once to crush him. It was the decisive moment of his life. He first sent his bravo, Micheleletto, to seize the pontifical treasure, thus making sure of a sum of three hundred thousand ducats, the sinews of resistance. The nine thousand men-at-arms under his orders, the one disciplined force in the city, made him master of Rome; the Sacred College set all their hopes upon this dying man, for he alone possessed sufficient authority to prevent anarchy. It is a strange spectacle — the representatives of all nations accredited to the Holy See assembling at his bedside to negotiate with him, and Cæsar, weak and helpless as he is, making himself responsible for the preservation of order, while the Sacred College formed itself into conclave to elect the new pope. In order not to put any pressure upon the cardinals by his presence, the Duke of Valentinois retired to Nepi. He left Rome, carried on the shoulders of his guards, livid and shivering with fever. Around his litter walked the ambassadors of Spain, France, and the Empire, and, mingled with the troops, could be seen his mother, Vanozza, his brother, Squilace, and his sister-in-law, Sancha, — all three in danger of their lives in excited Rome. One of the Borgias had been killed, and Fabio Orsini, descendant of one of the Roman barons ruined by Alexander VI., had steeped his hands in the detested blood, and sworn to visit all who bore that hated name with the same fate.

Through the intrigues of the Spanish cardinals, the conclave appointed an old man of eighty, favorable to Cæsar — Pius III., a Piccolomini. Valentinois raised his head again. On the 3rd of October he re-entered Rome, accompanied by the same formidable escort, yet still weak, and carried in a litter by his guards. His towns in Romagna had remained faithful to him, and he was full of confidence for the future. His enemies, the Orsini, had already taken alarm, and opened negotiations with him. The Venetian ambassa-

dor, who came to sit by his bedside, found him even boastful; and he writes to the Senate, "The duke is not in so bad a position as people think, and his language is full of arrogance." Yet all the world felt that Alexander VI. was dead indeed—that all that constituted the strength of Cæsar had vanished altogether; and ten days after his return to Rome, in spite of the pope's support and his own growing confidence, all those whom Cæsar had dethroned, ruined, or vanquished, signed a treaty of alliance against him. Spain herself, represented by Gonzalo de Cordoba, joined this league. By degrees, single detachments of troops were secretly introduced into Rome. In every palace lurked an enemy of Cæsar's; without, the gates of the city were guarded, and had Cæsar tried to escape by Ostia, he would have been arrested by the commander of the galleys, who was in the enemy's interests. His own troops fell off from him, seduced from their allegiance by bribes; and to prevent any attempt at escape, he was blockaded in the Vatican itself, the approaches to which he had fortified, while his palace of the Borgho was sacked. At last his enemies held him at bay, when the cardinals who remained faithful to him opened for him the famous underground passages of the Vatican which led to the Castle of St. Angelo, where he took refuge with his two natural sons, the little Duke of Nepi, the son of his father by Giulia Farnese, and the Duke of Semoneta, son of Lucrezia Borgia and the unhappy Neapolitan prince whom Cæsar had caused to be assassinated. After some time he succeeded in formulating a plan, and everything was prepared for its execution. He was to escape by night, and to take refuge in his duchy of Romagna, but at the very moment when he was to attempt to carry out his plan, fate dealt him a crushing blow. After a reign of twenty-seven days, Pius III., the old man who had protected and supported him, died suddenly.

Any other man would have succumbed under this misfortune; but Valentinois, now that the pontifical throne was vacant, thought only of one thing. Through his creatures he commanded, as he imagined, a majority in the Sacred College, and he could appoint a pope of his own choice. On the 26th of October Machiavelli visited him in his prison, and on the same day he wrote to the Florentine Signoria: "The duke is shut up in the mole; he hopes more than ever to do great things yet, provided always he can return a pope

of his own choice." But he received a new blow when the conclave, on the 1st of November, 1503, chose for the new pope his mortal enemy, Giuliano della Rovere, who took the title of Julius II. This prelate, however, dissembled his hatred, as he hoped to obtain at once from Cæsar all the cities of Romagna, which constituted his duchy, before coming to blows with him. Besides, he was bound by an agreement with the Spanish cardinals, to whom he had promised, in order to obtain their votes, to spare the life of Valentinois and to secure him the enjoyment of his possessions. He therefore made a show of protecting him with offers of employing him in his own service; and he even gave him the command of the galleys, and demanded from the Florentines a free passage for him and his troops. But it was understood that Cæsar was to consider himself as the representative of the Holy See, and it was a necessary preliminary that he should give his officers orders to surrender the fortresses of Romagna to the pope. Cæsar hesitated to comply, and in face of this hesitation Julius II. caused him to be arrested, and gave him as his prison the apartments of the treasurer of the Vatican. Valentinois soon yielded and gave the required orders, but they were never carried out. Julius II., however, could only act by stratagem. He was without arms against Valentinois, whose Romagnol troops had remained faithful to him. He therefore at last made a compromise. An additional reason for this course was that the French had just been beaten by the Spanish forces on the Garigliano, in the Neapolitan territory, on the 31st December, 1503, and the Valencian and Castilian cardinals in the Sacred College demanded his liberation. Don Diego de Mendoza, ambassador from the Catholic king, also joined with them to obtain the liberty of Valentinois.

At last, on the 14th of February, 1504, the Cardinal Santa Croce, who had been entrusted with the care of Cæsar, who was detained at Ostia, set his hostage at liberty, after making him sign an engagement never to take up arms against the Holy See. Foreseeing fresh calamities, Borgia had some time before sent his confidant, Michael Ramolino, and his cousin, Cardinal Giovanni Borgia, to Gonzalo de Cordoba to solicit from him a safe-conduct in the name of the Catholic king. On the 28th of April, Cæsar presented himself before the Great Captain* at Naples, at

* A title conferred upon Gonzalo (Muratori says

the Castello Nuovo, and was courteously received by him. For more than a month he was the guest of Gonzalo, who, on hearing Cæsar, the astute and consummate diplomat, the skilful and adventurous soldier, develop his plans, calculate his resources, and call up hopes of easy conquests, — safer now that he had the support of Spain, — was so far convinced and so much fascinated that he authorized him to levy troops, and took steps to smooth the way for him. Borgia's plan was first to alarm the Florentines by bringing assistance to Pisa, which had sent him envoys and offered to give itself up to him. He began to organize his artillery; *condottieri* from all parts flocked to him, to join a commander of proved valor, now supported by Spain; great enterprises were again to be attempted. On the 25th of May all seemed to be decided, and Cæsar was on the point of starting. In the course of the day he had assisted at the embarking of the last cannons on board the galleys; in the evening he came to Castel Nuovo to take leave of Gonzalo, who embraced him and wished him success; but just as he was about to cross the threshold of the postern, Nuñez de Ocampo, the governor of the fort, demanded his sword, "in the name of the king of Castile."

The effect of this breach of faith, pledged by an oath, even against a person whose treachery was notorious, produced a great sensation. After a captivity of some months in the fortress of Ischia, Cæsar Borgia was put on board a ship bound for Spain, as the prisoner of the Catholic king. He was never to see Italy again.

CHARLES YRIARTE.

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THE THREE EVILS OF DESTINY.

THIS is the general term given by an inhabitant of the Greek islands to express the three important events of life — birth, marriage, and death; and in considering the folklore concerning these points, we shall see how amongst these remote islands have survived the superstitions of antiquity. Three old women who live up in the mountains, who are always spinning, whose decree is unalterable except on rare occasions, are supposed to preside

over these three events; they are called as of old the *Molpai*, or Fates, and a discontented Greek, when cursing his ill-luck, will tell you how he considers it a misfortune to have been born, a greater one to have been married, and the greatest of all to have to die. We will first discuss the least of the three evils, and collect from various islands the superstitions and customs which relate to the appearance into this world of a modern Greek.

I.

BIRTH.

THE myths and superstitions which surround childhood in the Greek islands centre themselves around four different epochs — the actual birth, the fate-telling on the seventh day, the christening, and the early years of life. An expectant mother is grievously beset by superstitions, she may not go to the well for fear of meeting one of those "nymphs of the well water, daughters of Zeus," which are supposed still to haunt the streams, and whose glamor would be fatal to the well-being both of her and her child. She may not go to the oven to bake her bread on Saturday for the same reason, nor may she on St. Simeon's day wash her pots and pans or cook anything in her house, or some evil will be sure to befall the child. To insure male offspring she must sleep with a sprig of a certain herb called "male flower" over her bed, for the birth of a daughter is looked upon as a distinct calamity in a modern Greek family. When the time for her delivery draws nigh, the old hag who acts as physician and nurse in the smaller villages, will become excessively domineering; horrible concoctions will be brewed for her victim, a sprig of olive, called the "Madonna's hand" from the fact that it must have five branches coming out of one, is put into her hand, she is told to say her prayers to St. Eleutherios, who has taken the place of the goddess Eileithyia alike both in name and attributes; the doors and windows are closely shut in order to exclude all evil spirits or people who may possess the evil eye, and the greatest care is always taken to prevent an enemy from knowing that the event is imminent, lest he should have an ill-omened thought at the critical moment.

The priest is the first person admitted. Even should the father reach home from a voyage or distant journey after the doors are closed, he will be told to seek shelter elsewhere, and not until the priest has

"through the boastfulness of the Spaniards" — *dalla jattanza Spagnuola*) on his arrival at the siege of Atella, after the daring capture of Laino and other exploits in the south of Italy. — Translator's note.

blessed the child and gone through the Liturgy to the Highest are the doors opened. If the parents are rich, and if the child is a male, the priest gets a handsome present on this occasion; but if it is a girl, or the parents are poor, he is satisfied with a loaf of bread. If a son is born, the father fires off his gun in its honor; if it is a girl, the event is passed over in silence.

Until the christening, the baby goes by the name of Iron or Dragon to ensure strength, and the tiny speck of humanity is immediately swaddled in a handsome piece of embroidery prepared for the purpose, and on the third day the friends and relatives are summoned to the public washing, when the priest is again in attendance to read his blessing. Tables are spread with sweets and glasses of *raki* for the edification of the guests, and all who come in wish the mother a good forty days, — for still as in the days of Censorinus, "before forty days the mother does not proceed to the temple." On the central table is a bowl with warm water in it, and the relatives cast therein a little salt and sugar before the nurse proceeds with her ablutions; when she has finished these, she says her "Kyrie Eleison" forty times by way of a prayer of thankfulness, and into the water for her especial benefit each relative is expected to cast a coin. A sober man and a handsome woman are next required to embrace the re-swaddled infant, to the intent that sobriety and good looks may be secured for it, and before the guests depart, two so-called "well-footed men," that is to say, fortunate men, are secured to stand as sponsors at the coming christening. "Bad-footed" men have this distinct piece of good fortune in Greece that they are never pestered with requests to stand as godfathers or to act as best men, both of which honors imply considerable expenditure and trouble; a good godfather has to remember his godchildren at Easter, on their birthdays, and on their saints' days; and if the parents die, a godchild has more claim on his godfather than on the next of kin.

To see the fate-telling ceremony aright it is necessary to go to some of the remotest villages of the remotest islands. In civilized Greek places it is possible to see the fate-telling tray, that is to say, a year after birth a tray is handed to the child with things on it, such as a coin, a pen, an apple, and an egg. If the child touches the coin he will be rich; if the pen, a writer; and if the egg, nothing at all. But this is only a faint reflex of the fate-telling, which exists still as it did in St. Chrysos-

tom's day, and against which he wrote; and as it did in the days of Apollodorus, who tells us that seven days after the birth of Meleager, the Fates told the horoscope of the child, and the fire was lighted on the hearth. Seven days after the birth (from which the ceremony gains the name of *éphra*) the relatives, friends, godparents, and nurse assemble to assist at the fate-telling. A large bowl is placed in the centre of the room, in the bowl are placed clothes, — if the child is a male, the father's, if a female, the mother's, — and on the top of the clothes is placed the child itself. Around the pile seven candles are placed of equal length, and when all are seated the nurse comes forward to light them, and names each candle after a saint as she does so. Then all is silence for a long space of time, those assembled being supposed during this time to pray for the future of the infant. The priest is of course there, and he has blessed the candles, — the saint whose candle first goes out is to be the patron saint of the child. This choosing of the patron saint is a curious survival, for it is this very thing that St. Chrysostom inveighs against, and is doubtless a survival of the pagan custom which was in vogue many centuries before. When this is over, the baby is again swaddled, and as this is done one godfather says, "You have crossed the river," and the other replies, "Therefore be not afraid;" and when the guests have eaten a sufficiency of the delicacies provided, they take their departure, wishing, as they leave, some good fortune to the infant, who is now provided with a patron saint, as intercessor between it and its God. In the evening the nurse has her own ceremony. She makes what is called a meal for the Fates, in the same bowl in which the baby has been laid; honey, butter and meal form the chief ingredients in this mysterious repast, which is left for the Fates to eat at midnight, and reminds one forcibly of the meal laid out in ancient Athens for the appeasing of the Eumenides. "Come, Fate of Fates," she says, the last thing at night, "come to bless this child; may he have ships, and mules, and diamonds; may he become a prince;" and in the good humor consequent on so sumptuous a repast, the Fates are supposed to be kindly disposed towards the infant, whose destiny is then fixed once and forever.

The christening ceremony is of course entirely religious, but it is curious, and in remote villages forms an interesting spectacle. It usually takes place on the eighth

day after birth, the day after the fate-telling. The nurse has possession of the child, and the relatives and godparents assemble in the church. The font is placed in the middle of the nave, generally a large goblet-shaped one of lead; jugs of hot and cold water are brought in, and the priest, as he proceeds with the service, mingles them in the font, until he thinks the temperature suitable enough for the immersion of the infant. The nurse, meanwhile, is busily engaged in removing the swaddling-clothes, whilst the priest reads the service and blows on to the water in the form of a cross, and signs the cross several times over the child and his nurse. The sponsors are on either side of the font; and before immersion oil is poured three times into the water in the form of a cross. Then the tiny object, divested entirely of clothing, is handed to the priest by the godmother; he holds it up with both hands for public inspection, and then oils it with sacred oil in various parts before plunging it three times over head and ears in the font. This ceremony over, the godmother receives her charge into three white cloths, with which to dry him, and after the priest has blessed a tiny shirt and cap, they are put on the poor little shivering body. The nurse then seizes her charge, swaddles him up tightly once more, and as she kisses him, she calls him her little Demetrios, which name the infant has received in place of Iron or Dragon.

Demetrios is by no means finished with yet, for his little swaddled body is held upright, his cap is again taken off, and the priest cuts off four locks of hair if he can find them, saying, "One for the Father, one for the Son, one for the Holy Ghost, and one for eternity," as he mixes candle-wax with the hair and burns it. A cloak and hat, which the priest has blessed, are next put on to the swaddled infant, and the godmother takes her charge and carries him three times round the font, bowing as she does so to the priest, who waves incense at her from his censer. The priest takes Demetrios once more from his godmother, and places his lips against all the sacred pictures on the screen before the high altar, lays him on a bench alone, as if to give him time to meditate on what has happened, and then takes him into the Holy of Holies behind the screen, after which Demetrios is considered as a properly enrolled member of the Orthodox Church.

After the christening all go in procession to the mother's house, where she

awaits the return from church, and the ceremony of "giving up," *παράδοσις*, is gone through. She has a ploughshare in her hand, in which are some embers from the fire. This she waves before the approaching guests after the fashion of a censer, and it is called the incense of the ploughshare, which is supposed to secure for the infant success in agriculture and strength commensurate with the material of which the share is made. A godfather carries the child and goes straight up to the mother and puts it into her arms, saying as he does so, "I deliver up to you the child baptised, incensed, anointed, and made a Christian, that you may protect it carefully from fire, precipices, and all evil; that you may deliver it again to us at the second coming, spotless and undefiled." The mother has honey cakes covered with sesame seeds and other sweets spread on a table, and lots of glasses of *raki* with which to regale her guests.

The "forty days" ceremony is curious too. The mother is then received again into the church and into the houses of her neighbors, for until the forty days have elapsed it is considered improper for a mother to pay any visits. The mother and child go to church with a jug of water, and after the service is over and the water blessed, they visit their neighbors, and the mother sprinkles each house she visits with water out of the jug, saying as she does so, "That your jugs may not break." As she crosses the threshold it is expected of her to put the handle of the door-key into her mouth to secure the plates from breaking, and to make them "as strong as the iron of the key," as the expression goes.

The early years of childhood are surrounded by numerous superstitious observances. Amulets to ward off the evil eye, to preserve the little dears from stomach-aches and fevers, are hung round their necks; red strings in March, which are afterwards burnt with the Easter lamb, are considered most efficacious in keeping off infection. But nothing recalls antiquity so much as the devices an anxious mother is put to to ward off the fell influence of those uncanny spirits, the Nereids and the Lamiae, which are supposed to take special delight in sucking the blood of infants. In Keos, St. Artemidos is patron of such weaklings, and to his church up on the hill-slope a mother takes her child afflicted by a mysterious wasting. She strips off its clothes and puts on new ones blessed by the priest, leaving the old ones as a perquisite to the church. She

passes the naked infant through a hole, and then, if it recovers, she will thank St. Artemidos for the blessing vouchsafed, unaware that by so doing she is perpetuating the worship of Artemis, which in olden days on this very island was most popular — Artemis the nourisher of children, *παιδοτρόφος*. On this same island they have another remedy for a sickly boy. The parents take it into the country, where the father selects a young oak. This he splits up, and with the assistance of another man holds it open while the mother passes her infant through it three times. Then they bind up the tree again, cover it with manure, and water it for forty days. In the same fashion they bind up the child for a like period, and after the lapse of this time they expect it will be well.

But the most barbarous custom of this sort is in vogue on the island of Melos, where a mother loves to take an emaciated child to a tiny church, strip it naked, and leave it on the cold marble altar for a season. To effect a radical cure the child should remain there all night, but the mother is afraid of detection, for the government is trying to put this custom down. If the babe survive this treatment, there is not much the matter with it; but if, on the contrary, as often happens, the poor little creature dies, the parents are content to think that all has been done for the child that could be, and that God has willed that it should be a victim to the Nereids, the evil spirits, which, with curious blending of Christianity and paganism, they think he uses to punish mankind.

II.

MARRIAGE.

PERHAPS the most palpable cause for a modern Greek classifying marriage under the head of evils of destiny, is the way in which marriages amongst them are for the most part brought about. There is no such thing as romance to be found in the Greek islands, and if there is, it is rapidly nipped in the bud; we certainly do find young women, on the eve of St. John the Baptist, using a divination peculiarly their own for the discovery of their future husbands. Around a vase of water drawn without speaking, and since called "the speechless water," they say divers incantations. Into it they cast trinkets and so forth, which are drawn out at haphazard by a child as songs are sung, and she whose trinket comes out deciphers from the words at that moment sung the mean-

ing of the oracle, truly Delphic in its character. They eat salt cakes of most indigestible material that night to ensure their dreaming a dream in which their future husband will figure, and these divinations are called the *akleïdones*. The parents or next of kin usually arrange marriages for those whom they think fit to enter that estate, and in some islands there are certain old women whose duty it is to carry the proposal and bring back the answer, which old women correspond to the *προμήστριαι* of antiquity (Pollux. iii. 31). These old women know many love potions which they administer for money, one of which says that a lovesick girl, if she wishes to win the object of her affections, must get the milk of forty mothers, and of forty of their married daughters; these she must mix, and if she can succeed in getting her young man, by stealth or otherwise, so much as to taste a drop of the mixture, he will be hers for life.

When the old woman goes to propose she must wear stockings of different colors. "She has on stockings of two colors," says a modern Greek rhyme, "methinks we shall have an offer." If the proposal is refused, the young man is said "to eat gruel." The cause of the frequency of these marriages *de convenance* is to be found in the peculiar law of inheritance still in vogue in some of the remoter islands. The eldest daughter inherits everything, to the exclusion of her brothers and younger sisters, even her mother's embroidered garments and the slab on which she says her prayers in church. In other parts of Greece no girl can ever hope to find a husband until she has a house of her own; hence providing his daughters with houses is an onerous duty which falls to the lot of every paterfamilias, and this system results in leaving a very large portion of the female population to pass their days in single blessedness; and where the above-mentioned patriarchal system is still in vogue the parents always aspire to obtain for their eldest daughter a good match, and the proposals always come from the lady's family.

Marriages are almost invariably celebrated on the Sundays immediately preceding the great Lenten fast. This is a distinct survival of the ancient custom of marrying during the first month of the year, from which fact that month was formerly called Gamelion; and in the islands, where the men are often absent during the summer months in search of work abroad, the betrothals usually take

place shortly before Christmas, with a view to the marriage being solemnized on one of the Sundays of the great marriage month. On the remote island of Telos, which is inhabited by semi-barbarous Greeks, they retain the most extraordinary and elaborate system of wedding festivities, which continue for the space of a fortnight, during which time the village enjoys one long holiday and cessation from work.

The first ceremony takes place ten days before the crowning, with what they call the "little flour," when each household brings a handful of meal to the bride as an earnest that more will come presently, and as an intimation that all know about the wedding, and are prepared to share in the coming festivities. On this day and on every day before the wedding, the female friends of the bride assemble to assist in preparing the trousseau. Two days afterwards the "greater flour" takes place, when large quantities of grain are brought by all the friends for the wedding cakes. This is distributed by the young men to all the houses which possess a grindstone, to be ground, and late in the evening, accompanied by the sound of bagpipe and lyre, they go round to each house to collect it, and deposit it in that of the bride, where a table is spread, and great festivity and dancing ensue.

The Sunday immediately preceding the wedding is called the "macaroni day," when the female friends go each to the house of the bride with their low wooden tray to assist in making this commodity. But on the Wednesday before the wedding the festivities begin with real earnest. The young men go on this day to the mountains for brushwood to heat the oven for baking the wedding cakes, and are accompanied for part of the way by all the villagers, and are met in the evening on their return with music, and the night is spent in dancing and revelry. Next day the same ceremony is gone through with regard to providing fish for the wedding banquets; all day the young men cast their nets into the sea, and again pass the evening in festivities. On Friday they go to the mountain farms for the kids and lambs necessary for supplying the table, and thus the preparations are concluded.

On Saturday the bridegroom moves to the house his bride is bringing to him as her dower; he is accompanied by his young male friends to the sound of the lyre and song; his bride is there to greet him, and both of them have brought their

luggage. Then follows a very curious ceremony, when the stone walls are hung with embroidery, and the clothes of the happy couple are suspended one by one from a pole which has been hung for that purpose just over the door; first a pair of trousers is hung up, and then a dress, and as each garment is suspended a song appropriate to each is sung by the young men and maidens who have assembled. When all are hung up the priest blesses them, and then the nuptial couch is decorated, a sort of tent being formed over it with an old piece of embroidery, called a *sperberi*, which is handed down in families until quite worn out. This *sperberi* is commonly known as "the heaven," and is most elaborately blessed by the priest on each occasion that it is called into use.

When all this ceremony is over the marriage contract is signed; the most worthy men of the village are called in to append their signatures to it; congratulations follow, and then a little dancing, but the party breaks up much earlier than usual on this evening, and the bridegroom is left in sole possession of his new house; the key is turned in the door by the best man, and he is left thus to meditate over the second evil of destiny which the Fates have ordained for him.

The ceremony of crowning, which takes place all over Greece on a Sunday, is of course attended by high festivity. The father of the bride and the priest go alone to the vineyard to fetch the two vine tendrils with which to make the two wedding crowns. The guests assemble in the bride's old home; and when the sound of a gun being let off, and the strains of bagpipe and lyre are heard, all know that the bridegroom is approaching. In some places in Imbros, more especially, the bride's bath (the old *νυμφικὸν λουτρὸν*) and her subsequent decoration form a very important part in the ceremony, and then she is expected to go and wash her father-in-law's hands as a symbol of the respect she is prepared to pay him. In Santorin a bridesmaid meets the bridegroom on the threshold with a saucerful of honey, into which he dips his fingers and makes three crosses with it on the door, one on the lintel, and one on each post. After this he eats a mouthful of honey, which the bridesmaid puts into his mouth with a spoon, wipes his fingers on a towel, and retires to the side of his bride. In Eubæa they still go through the ancient farce of the bridegroom pretending to snatch his bride by force from the care of her parents, but this is now only an excuse

for a little amusing bye-play. Then the bridesmaids proceed to make the two wedding crowns, two on either side of a table in the middle of the room, and as they twine together the pink and blue ribbons on the tendrils, they sing good wishes to the young pair. "May holy Procopius be with you to-day, May holy Polycarp grant you many teeth in your house," and so on.

When the crowns are finished they are put into a basket, and carried by the priest who heads the gay procession to the church. The altar of hymen is always placed, like the font at baptisms, in the middle of the nave, and around this the wedding parties gather. Preparatory to reading the gospels and the usual injunctions, the priest binds the young couple's wrists with a belt. He then hands them candles to hold, and as they take them they kiss his hand. After this comes the ring ceremony, both bride and bridegroom being signed three times with the sign of the cross with the rings before the priest puts them on their fingers. The best man then changes the rings from one to the other, as an earnest that each is bound by the vows of the other, and then the chief bridesmaid changes them back. Before the crowns are produced from the basket another gospel is read, and before they are put on the heads of the bride and bridegroom they are signed with the sign of the cross three times with them, and as was done with the rings, they are changed from one head to the other. Finally, the sacramental wine is administered, three sips each to the young couple, and one sip each to their attendants; and then the newly made man and wife, the bridesmaids, the bridegrooms, attendants, and the priests who have officiated, join hands and literally dance round the altar, which is an obvious continuance of the old custom called *amphidromia*, when similar antics were performed around the altar of heathen deities. This is the time for pelting the wedding party with showers of sweetmeats—the old *καταβόματα* with which in ancient Greece brides and bridegrooms were pelted in the streets as a symbol of plenty and fecundity. Now they do it in church, where the priests come in for a good share of these comfits, and great hilarity prevails.

Before leaving the church the bride and bridegroom, each with their crown on, stand in front of the altar, and every one who has been present at the ceremony is expected to pass in front of them and administer to each a kiss. Then the

crowns are removed from their heads and carried home in a basket, to be kept as objects of the greatest veneration amongst the pictures of the saints and other household gods before which the ever-burning light is suspended. These wedding crowns are frequently buried with their wearers when their time comes to participate in the third evil prepared for them by destiny.

In different islands they have many and various ceremonies attending the home-coming of the bride after the knot has been tied in church. In Karpathos the bridegroom's mother meets them, as after a christening, with the incense of the share as described above. In Imbros the bride must not tread on the threshold, but must be lifted over it by her husband and the best man; it would mean a most disastrous future for the young pair if such a calamity happened as touching the threshold, even with the hem of her raiment. And in other places actually the classical custom, which compelled the bride and bridegroom to eat a quince together on returning to their new home as man and wife, is still maintained.

The remainder of the wedding-day is devoted to singing and dancing, the dances being for the most part the curious circular dance which Homer has so admirably described in the Eighteenth Iliad, a light, wavy dance which they perform with astonishing lightness, such as they imagine the Nereids which haunt the streams to be forever indulging in, and such as we see depicted on many of the ancient vases which adorn our museums. Conspicuous amongst the delicacies at a wedding feast are the cakes covered with sesame seed, the same probably that Aristotle alludes to, as symbolical of fruitfulness. Some of the songs which they sing on these occasions have doubtless been handed down from generation to generation, being replete with touches of a remote antiquity. But the *epithalamium* of ancient days now takes place on the following morning, when young men and maidens, accompanied by lyre and bagpipe, assemble outside the door of the young couple, and sing merry songs, exhorting them to come out and join in the festivities, which have by no means come to an end.

At Telos, where they have such very prolonged festivities, the Monday after the crowning is jocularly called the bridesmaid's wedding-day, and is consumed in singing and dancing. If the day is fine the party repair to the bride's threshing-floor—for of course every bride counts a threshing-floor among her other belong-

ings — where they eat, and sing, and dance as only sturdy island Greeks can dance, without ever thinking it necessary to take any rest.

The following day is the "cooks' day," that is to say, in honor of those who have assisted in preparing the victuals for the wedding festivities, when the entertainment is usually given at the threshing-floor of some near relative of the bride's; and as it is the last of the series of entertainments, it is kept up until a late hour in the evening.

And yet there is one more festive gathering before the whole of the wedding festivities are over. This takes place on the fortieth day after the crowning, when the priests come to bless the embroidered garments as they are taken down from the walls and the pole over the door. It is considered highly essential to have this ceremony performed, and many cases are on record of misfortune having ensued from its omission. Then the *sperberi* is taken down from off the nuptial couch, and packed away till the wedding of the bride's daughter. They sing once more and dance once more, and then the bride and bridegroom sink altogether into insignificance.

III.

DEATH.

WHEN a death is expected the attendant mourners in the Greek islands have many little customs peculiar to themselves; the moribund is handed a bowl of water, into which he puts a pinch of salt for each person with whom he is at enmity, saying as he does so, "May my wrath perish as this salt;" for it is considered dreadful for a man to die leaving an enemy behind him. His spirit, it is believed, will not rest, but will wander about as a poor ghost, sucking the blood of his friends, like the shades in ancient Hades, to gain strength for his earthly wanderings. If the complaint is consumption, they suppose that three Erinnyes stand ready to pounce on children at the corners of the room; hence the young are kept out of the way when the dying is *in extremis*, and a hole is opened over his head to allow the Erinnyes to escape. Fevers are best cured by priestly incantations; the name of the disease is written on a slip of paper, and with prayer and much incensing this is bound to a tree, hoping thereby to transfer the malady. Incense is much used by the priest in his visitations to the sick; the whole room is thick with it, and perhaps contagion is thus often avoided.

When the death has occurred the women rush on to the flat roof or some other conspicuous place, where they rend the air with their cries, tear their hair, and give way to unbridled grief. The town crier is sent round to announce the fact to the neighbors, and to summon friends to the death-wail, which takes place an hour or two after the spirit has left the body. After the body has been washed in wine, it is laid out on a bier in the centre of the one-roomed house, arrayed in the deceased's best clothes, decked out with flowers, and with lamps burning at the side, reminding us of the ancient custom of placing the corpse thus in the midst of the hall, dressed in as handsome a robe as the family could afford, in order, according to Lucian, that the dead may not be cold on the passage to Hades, and may not be seen naked by Cerberus. Then begins the death-wail ceremony — a scene of heart-rending grief such as took place in Priam's palace over the dead body of Hector. The hired women who perform at these death-wails are lineal descendants of the Carian women of ancient Greece, of the *præfica* of ancient Rome, who still survive in the island of Sardinia, under the name of *præfiche*. The family sit groaning around the corpse awaiting her arrival, and as she enters she stands at the door with tragic effect, as if transfixed by grief at what she sees, and in the language of hyberbole, in which these women love to indulge, she will apostrophize the sun, wondering how the heavenly luminary can endure to shine on a scene of grief like the one before her. This is the signal for the commencement of unearthly yells and unconnected praises of the deceased from the members of the family assembled; and when the hubbub has somewhat subsided, the *marologista*, as they now term the hired mourner, advances to the foot of the bier, and commences her wail with dishevelled hair and distraught appearance: —

I yearn to mourn for the dead one
Whose name I dare not say,
For as soon as I speak of the lost one
My voice and my heart give way.
Who hath seen the sun at midnight?
Who hath seen a midday star?
Who hath seen a bride without a crown
Go forth from her father's door?
Who hath seen the dead returning,
Be he king or warrior brave?
They are planted in Charon's vineyard,
There is no return from the grave.

After another pause in the lamentations excited by this address, the widow, the

mother, or other female relatives, standing with the head of the deceased in their hands, will, like Hecuba, Andromache, or Helen, sing their own special wail over the departed, and when exhausted by the effort of lamentation they will all repair to a side table where the so-called "bitter table," the old *νεκρόδειπνον*, is spread, and gain strength for the renewal of their woe by imbibing raki, and eating figs, biscuits, and other small refectations, which are always provided on such occasions. This prolonged agony of mourning generally continues for two long hours, messages are sent to those who have gone before by him who has now entered on the last journey to Hades, and the arrival of the priests with their acolytes bearing the cross and the lanterns to convey the corpse to its resting-place, is accepted as the signal for a pause.

From these death-wails we learn how much that is heathen is incorporated in the belief of to-day respecting an after life. They sing of Hades as a frozen, miserable place, where the dead wander forever, anxious to return to the upper air, and endeavoring to steal from Charon, the lord of the lower earth, his keys, but ineffectually. Charon plants the bones of the departed in his garden, and they come up as weird plants. His tent pegs are heroes' bones, and the ropes are made of maidens' tresses. He rides on a horse to collect his victims, driving the young and strong before him, dragging the aged after him by ropes, and carrying with him on his saddle the little children. The young and strong often struggle with him as Hercules struggled with Hades. The old simile of wedding death is often now reproduced in their songs, "The black earth for his wife he wed, the tombstone was his wife's mother, and the worms were the relatives of his bride." Charon is distinctly the death of bygone ages, not the death as personified by Christianity. Charon has a wife Charontissa, who is the modern representative of Persephone. He has sons, and one death-wail represents Charon as "making merry now, he is keeping his son's wedding, he is slaying boys for lambs, and brides for kids he is slaughtering."

These death-wails are, in fact, one of the most striking bonds of connection between the Hellenism of the past and the Hellenism of the present; and in the Greek islands, despite the strictness of the more civilized members of the Orthodox Church, they cling to them with surprising tenacity. A body which dies unlamented can-

not enter Hades, and wanders about like that of Patroclus and Elpenor in misery in the upper air, neither belonging to the living nor to the dead. Consequently, the death-wails and the burials take place as soon as possible after death, that the gates of Hades may be opened to them as soon as may be. The tenacity with which the islanders cling to their death-wails is illustrated by the following story of a Mykoniot merchant who had settled in Marseilles, and made money there. On his death-bed he implored his wife to sing a death-wail over his body, but she pleaded that owing to long absence from home she had forgotten how. "Go to my desk," he said, "take out my ledger, read all that I have earned, and sing that."

Solon in his day, St. Chrysostom in his, and the modern bishops in theirs, have all in their turn tried to put down the extraordinary grief of women on the occasion of a death. "O women, what do you do?" wrote St. Chrysostom; "you destroy your dresses, you tear your hair, you utter great cries, you dance, you imitate the mænads, and you do not think that you are offending God. What extravagance!" Bishop Lycurgus of Syra, whose great object in life was the union of the Anglican and the Orthodox Churches, used all his influence to check this custom, but in vain. The love of a death-wail is such, that when a person dies from home, they spread out his clothes in the middle of the room and go through all the forms of lamentation, with even greater vehemence than when the corpse lies in their midst.

In remote villages the wax cross which bears the initials I. X. N. (*Ἰησοῦς Χριστός νικᾷ*), and which the priest puts on the lips of the deceased, is still called the *ναῦλον*, or freight-money, thereby demonstrating its pedigree from the coin which was anciently placed on the lips to pay for the ferry across the Styx. Sometimes when a man dies who has been conspicuous for his good fortune during life, they will cut off his nails before the corpse is removed, and tie them up in a bag to be preserved amongst the other sacred things which are hung up in the sanctuary belonging to every house.

Before the corpse leaves the house a vase of water is broken on the threshold. When any one starts on a journey, it is customary to spill water as an earnest of his success and safe return, and when the body goes on its last long journey the vase also is broken. The bier is carried by four male bearers, and about a bier the Greek islanders have this most gruesome

riddle, — what is that which he who makes does so to sell, he who buys does not use himself, and he who uses does not see? As the funeral procession passes through the village street the priests chant the offices of the dead, and from time to time the mourners, who go in front, break forth into their hideous wails, and women come forth from their houses to groan in consort with the others. Of a truth a Greek island funeral is a painful sight to witness. On reaching the church the corpse is left in the porch, and whilst the liturgy is proceeding the mourners cease to wail. Then comes the very impressive *stichera* of the last kiss, which is chanted by all the congregation, and begins, "Blessed is the way thou shalt go to-day," whereat each mourner advances and gives the last kiss to the cold face of the corpse, and once more the extravagant demonstrations of grief break forth. Finally the corpse is lowered without a coffin into its shallow grave, and each bystander casts on to it a handful of soil. There is a prejudice against coffins, for they say the flesh cannot properly decay; and it is the custom to exhume the bones after a year has elapsed, when, if any flesh remains on them, they think it is a proof that the spirit has not gone to rest. This ceremony of exhuming the bones is a very painful one. They are washed carefully, and in some places tied up in a bag and consigned to a charnel-house, and often these charnel-houses fall into ruins, and hideous sights of skulls and bones are exhibited to the gaze of surviving relatives.

The house of mourning is thoroughly cleansed and washed after a death. The deceased's bed and pillow are left as they were for three days, with a lamp burning, for it is believed that during that time the spirit loves to hover around its old haunts, and would be hurt to find alterations made. Also it is deemed unlucky to cook in a house where a death has occurred, consequently the neighbors always come in with cooked provisions for the benefit of the inmates, who have sufficient occupation during the succeeding days in visiting the tomb and continuing their heart-rending wails. Boiled wheat, ornamented with sugarplums, and called the *κόλλυβα*, are presented as an offering to the dead on successive days after death. Sometimes these are called "blessed cakes," by a euphemism no doubt. On the third

day the friends and relations reassemble, again being summoned by the town crier; fresh death-wails are sung, and more boiled wheat is presented as an offering to the dead, which is finally distributed to the poor, who always congregate near a churchyard for what they can get when a funeral has taken place. This same ceremony is likewise gone through on the ninth and fortieth days after death, much as the feasts were performed on similarly stated days amongst the ancient Greeks, called *τρίτα* and *ἑννέατα*, from the days on which the feast took place.

The boiled wheat or *κόλλυβα* forms a part of the ceremony on the Greek All Souls' day, and is, as the Church teaches, symbolical of being sown in corruption and raised in incorruption; but if you ask a Greek peasant why he takes with him his present of boiled wheat to church on that particular day, he will say it is in honor of the dead, that the dead may eat thereof and think kindly of the living. If a household were to neglect to take this offering to church, they would fear a visitation from their deceased friends to claim the proper attention. In some places on the Saturday after the death, when the bread-baking takes place, warm bread with cheese or oil is distributed to poor women at the ovens, in memory of the departed, and if the death has occurred during Lent, at Eastertide the flesh of lambs and skins of ewes are given away in charity by wealthy mourners.

Families of the better class have their own tombs, where the bones of one deceased member are left until it is necessary for them to make way for the incoming tenant. In the island of Karpathos they put plates into the tombs; why, no one seemed to know. But it is an obvious continuation of the ancient custom, for in some old tombs we excavated close to the spot, we found as many as sixteen plates laid out with the remnants of a feast for the dead, which had been there untouched for perhaps two thousand years. They never put a tombstone or name over the grave. It is reserved for the Armenians to perpetuate the old custom of putting on the tombstone some device by which you can tell the calling in life of the occupant. Tailors, architects, farmers, are all thus labelled, reminding one of Elpenor's request to have an oar put on his grave to testify to posterity the fact of his having been a mariner. J. THEODORE BENT.

From *The Nineteenth Century*.

A RIVER OF RUINED CAPITALS.

A LAMENTED historian has shown the influence exerted on the making of England by the natural configuration of the island. But while physical geography is now recognized as an initial factor in the fortunes of European countries, it has received scanty acknowledgment in histories of the East. Yet in India, where man has for ages confronted with bare arms the forces of tropical nature, his terrestrial surroundings have controlled his lot with an energy unknown in our temperate clime. Mountains and rivers and regions of forest set barriers to human ambition in India, barriers against which the most powerful Mughal sovereign in vain shattered his dynasty. The same isolating influences which forbade a universal dominion, tended also to perpetuate local institutions, race animosities, and exclusive creeds. The conception of India as a whole, or of its races as a united people, is a conception of the British brain. The realization of that conception is the great task of British rule. For in India man no longer confronts the forces of nature with bare arms. Science, which is in England a calm pursuit, is to our countrymen in the East an instrument of empire. It has overtopped the mountains, spanned the rivers, and pierced the forests which divided kingdom from kingdom. It has thrown down the landmarks of isolation which nature had set up, and is clasping together with bands of iron the peoples and provinces of a united India.

The following pages present a single episode in this great struggle between man and nature. I shall show how, during ages, nature lorded it over man, laughing at his painful toils, and destroying with scornful ease his mightiest works. I shall indicate the new allies which man has lately called to his aid. The battle is still a drawn one, and on its issue the prosperity, if not the existence, of the capital of British India now depends. I believe that only by thus examining Indian history in connection with Indian geography, can its true significance in the past or its bearings on the present be understood. There is another point, also, in regard to which I have a strong conviction. When Marco Polo returned from the East, the Venetians nicknamed him the man of millions, from the huge figures in which he indulged. Indian history and Indian progress still express themselves in vast totals — in totals so enormous as

almost to seem to place themselves outside the range of accurate Western research. I believe that if we are to approach Indian questions in a scientific spirit, we must begin by getting rid of these immense integers. We must shun the foible of Messer Marco Million. For in India, as elsewhere, the aggregate is merely the sum of its items, and exact knowledge is best reached by proceeding from the particular to the general — by leaving the whole alone until we have examined its parts. This article will restrict itself to a short river trough, which runs inland from the Bay of Bengal, with the buried Buddhist port near its mouth; with Calcutta about half-way up; and with Murshidabad, the forsaken Muhammadan capital, towards its northern end.

The Hugli is the most westerly of the network of channels by which the Ganges pours into the sea. Its length, under its distinctive name, is less than one hundred and fifty miles — a length altogether insignificant compared with the great waterways of India. But even its short course exhibits in full work the twofold task of the Bengal rivers as creators and destroyers. The delta through which it flows was built up in times primeval, out of the sea, by the silt which the Hugli and adjacent channels brought down from inland plains and Himalayan heights, a thousand miles off. Their inundations still add a yearly coating of slime to vast low-lying tracts; and we can stand by each autumn and see the ancient secrets of landmaking laid bare. Each autumn, too, the network of currents read away square miles from their banks, and deposit their plunder as new alluvial formations further down. Or a broad river writhes like a monster snake across the country, leaving dry its old bed, and covering with deep water what was lately solid land.

Most of the channels do their work in solitude, in drowned wastes where the rhinoceros and crocodile wallow in the slush, and whither the woodcutter only comes in the dry months, after the rivers have spent their fury for the year. But the Hugli carries on its ancient task in a thickly peopled country, destroying and reproducing with an equal balance amid the homesteads and cities of men. Since the dawn of history it has formed the great highroad from Bengal to the sea. One Indian race after another built their capitals, one European nation after another founded their settlements, on its banks. Buddhists, Hindus, Musalmans, Portuguese, Dutch, Danes, French, Ger-

mans, and English, have lined with ports and fortresses that magnificent waterway.

The insatiable river has dealt impartially with all. Some it has left high and dry, others it has buried under mud, one it has cleft in twain and covered with its waters; but all it has attacked, or deserted, or destroyed. With a single exception, whatever it has touched it has defaced. One city only has completely resisted its assaults. Calcutta alone has escaped unharmed to tell of that appalling series of catastrophes. The others lie entombed in the silt, or moulder like wrecks on the bank. The river flows on relentless and majestic as of old, ceaselessly preaching with its still, small ripple, the ripple that has sapped the palaces of kings and brought low the temples of the gods, that here we have no abiding city. It is a vision of the world's vanities such as the world has not seen since Spenser mourned the "ruines of Rome" —

Ne ought save Tyber hastning to his fall
Remaines of all. O world's inconstancie!
That which is firme doth slit and fall away,
And that is flitting doth abide and stay.

In order to understand a great Indian waterway, we must lay aside our common English idea of a river. In England the streams form lines of drainage from the interior to the sea. The life of a Bengal river like the Ganges is much more complex. Its biography divides itself into three chapters — a boisterous boyhood, a laborious manhood, a sad old age. In its youth the Ganges leaps out from a snow-bed in the Himalayas, and races across the sub-montane tracts, gathering pebbles and diverse mineral treasures as it bounds along. After three hundred miles of this play, it settles down to its serious work in life, grinding its mountain spoils to powder against its sides, bearing on its breast the commerce of provinces, and distributing its waters for the cultivation of the soil. Its manhood lasts a thousand miles, during which it receives tributaries from both sides, and rolls onward with an ever-increasing volume of water and silt. But as it grows older it becomes slower, losing in pace as it gains in bulk, until it reaches a country so level that its mighty mass can no longer hold together, and its divergent waters part from the main stream to find separate courses to the sea. The point at which this disseverance takes place marks the head of the delta. But the dismembered river has still an old age of full two hundred miles before its worn-out currents find rest. It toils

sluggishly across the delta, splitting up into many channels, each of which searches a course for itself southwards, with endless bifurcations, new junctions, twists, and convolutions.

The enfeebled currents can no longer carry on the silt which the parent stream, in its vigorous manhood, has borne down. They accordingly deposit their burdens in their beds, or along their margins, thus raising their banks above the low adjacent plains. They build themselves up as it were into high-level canals. The delta thus consists of branching rivers winding about at a perilous elevation, with a series of hollow lands or dips between. The lofty banks alone prevent the channels from spilling over; and when a channel has filled up, the old banks run like ridges across the delta, showing where a dead river once flowed. In the rainy season the floods burst over the banks, and drown the surrounding flats with a silt-laden deluge. Then the waters settle and drop their load in the form of a coating of mud. As the inundation subsides, the aqueous expanse, now denuded of its silt, partly finds its way back to the channels, partly sinks into the porous soil, and partly stagnates in land-locked fens. The Ganges thus yields up in its old age the accumulations of its youth and manhood. Earth to earth. The last scene of all is the solitude of tidal creeks and jungle, amid whose silence its waters merge into the sea.

The Hugli is formed by the three most westerly of the deltaic spill-streams of the Ganges. The first or most northerly is the Bhagirathi, a very ancient river, which represents the original course of the Ganges, down the Hugli trough to the Bay of Bengal. A legend tells how a demon diverted the sacred Ganges by swallowing it. The demon was a geological one — a band of stiff yellow clay which confined the Ganges to its ancient bed, until a flood burst through the barrier and opened a passage for the main body of the Ganges to the east. The disruption took place in prehistoric times. But to this day the Bhagirathi, and the Hugli which it helps to form lower down, retain the sanctity of the parent stream. The Ganges ceases to be holy eastward from the point where the Bhagirathi breaks south. It was at this point that Holy Mother Ganga vouchsafed, in answer to the sage's prayer, to divide herself into a hundred channels to make sure that her purifying waters should reach, and cleanse from sin, the concealed ashes of the heroes. Those channels form her distributaries through the delta.

The Bhagirathi, although for centuries a mere spill-stream from the parent Ganges, is still called the Ganges by the villagers along its course.

The levels of the surrounding country show that the bed of the Bhagirathi must once have been many times its present size. The small portion of the waters of the Ganges which it continued to receive after the geological disruption no longer sufficed to keep open its former wide channel. Its bed accordingly silted up, forming islands, shoals, and accretions to its banks. It now discloses the last stage in the decay of a deltaic river. In that stage the process of silting up completes itself, until the stream dwindles into a series of pools and finally disappears. This fate is averted from the Bhagirathi by engineering efforts. The vast changes which have taken place in the Hugli trough may be estimated from the one fact, that the first of its headwaters, which originally poured into it the mighty Ganges, is now a dying river kept alive by artificial devices.

The other two headwaters of the Hugli bear witness to not less memorable vicissitudes. The second of them takes off from the Ganges about forty miles eastward from the Bhagirathi. At one time it brought down such masses of water from the Ganges as to earn the name of the Terrible. But in our own days it was for long a deceased river; its mouth or intake from the Ganges was closed with mud; its course was cut into three parts by other streams. The country through which it flowed must once have been the scene of fluvial revolutions on an appalling scale. That tract is now covered with a network of dead rivers; a vast swampy reticulation in some places stretching as lines of pools, in others as fertile green hollows. But thirteen years ago a flood once more burst open the mouth of the Terrible from the Ganges, and it re-expanded from a little cut into a broad distributary. The third of the Hugli headwaters has its principal offtake from the Ganges again about forty miles further down. It constantly shifts its point of bifurcation from the Ganges, moving its mouth up and down the parent river to a distance of ten miles. All the three headwaters of the Hugli dwindle to shallow streams in the cold weather. At many places a depth of eighteen inches cannot always be maintained by the most skilful engineering. But during the rains each of them pours down enormous floods from the Ganges to the Hugli trough.

The Hugli, thus formed by three uncertain spill-streams of the Ganges from the north and east, receives no important tributary on its western bank above Calcutta. One channel brings down the torrents from the mountain fringe of the central-India plateau. But during three-quarters of the year this channel dwindles, in its upper course, to a silver thread amid expanses of sand. Formerly, indeed, the Hugli above Calcutta received a mighty river from the westward, the Damodar. About two centuries ago, however, that giant stream burst southward, and now enters the Hugli far below Calcutta. For practical purposes, therefore, the only feeders of the Hugli are the three spill-streams from the Ganges on the north and east.

How comes it that these decaying rivers suffice to supply one of the great commercial waterways of the world? In the dry weather, writes the officer in charge of them, it is impossible, at a short distance below their final point of junction, "to tell whether they are opened or closed, as the proportion of water which they supply" to the Hugli "is a mere trifle." Thus in 1869 two of them were closed, and the third only yielded a trickle of twenty cubic feet a second. Yet within fifty miles of their junction the Hugli has grown into a magnificent river, deep enough for the largest ships, and supplying Calcutta with twelve million gallons of water a day without any appreciable diminution to the navigable channel.

This was long a mystery. The explanation is that during the eight dry months the Hugli is fed partly by infiltration underground, and partly by the tide. The delta forms a subterraneous sieve of silt, through which countless rills of water percolate into the deep trough which the Hugli has scooped out for itself. The drainage from the swamps and hollow lands, finding no outlet on the surface, sinks into the porous alluvium. The delta thus stores up inexhaustible underground reservoirs, to feed the Hugli in the hot weather. There is a moving mass of waters beneath the surface of the land, searching out paths into the low level formed by the Hugli drain. This perpetual process of subterrene infiltration, together with the action of the tides, renders the Hugli almost independent of its headwaters so long as it can maintain the depth of its trough below the adjacent country. That depth is secured by the scouring of the current in the rainy season. During the dry months the Hugli

silts up. But if only its headwaters are kept from closing altogether, the floods from the Ganges will pour down them on the first burst of the rains, and again deepen the Hugli trough. The problem of engineering, therefore, is to save the three headwaters from being absolutely silted up during the dry season.

The struggle between science and nature which the last sentence represents lies beyond the scope of this article. Meanwhile let us sail quickly up the Hugli in the cold weather, and see how man, unaided by science, fared in the conflict. The country round the mouth of the river consists of disappointing sandbanks or mean mud formations, covered with coarse grass and barely a few inches above high tide. But about thirty-five miles below Calcutta we reach a better raised land, bearing cocoanuts and rich crops of rice. There on the western side of the Hugli, but at some distance from its present course, and upon a muddy tributary, once flourished the Buddhist port of Bengal. From that port of Tamlûk, the Buddhist pilgrim of the fifth century A. D. took shipping to Ceylon. It is now an inland village six miles from the Hugli channel and fifty from the sea. Its Buddhist princes, with their ten monasteries and one thousand monks, succumbed to Hindu kings of the warrior caste, who built a fortified palace said to cover eight square miles. The Hindu kings of the warrior caste were succeeded by a semi-aboriginal line of fishermen princes. As each dynasty perished, the delta buried their works beneath its silt. The floods now unearth Buddhist coins from the deep gullies which they cut during the rains; sea-shells and fragments of houses occur at a depth of twenty feet. The old Buddhist port lies far down in the mud; of the great palace of the Hindu warrior kings only faint traces remain above the surface. Even the present temple, said to be built by the later fishermen princes, is already partly below ground. Its mighty foundation of logs spread out upon the delta, heaped with solid masonry to a height of thirty feet, and surmounted by a Cyclopean tripartite wall and dome, form a marvel of mediæval engineering. But the massive structure, which has defied the floods and tidal waves of centuries, is being softly, silently, surely shovelled underground by the silt.

A little above the buried Buddhist port, but on the Hugli itself, we come to Falta. Once the site of a Dutch factory, and a busy harbor of Dutch commerce, it formed the retreat of the English Council in 1756,

after the Black Hole and their flight from Calcutta. It now consists of a poor hamlet and a few grassy earthworks mounted with guns. The Dutch factory is gone, the Dutch commerce is gone; it strains the imagination to conceive that this green solitary place was once the last foothold of the British power in Bengal. I moored my barge for the night off its silent bank, and read the official records of those disastrous days. A consultation held by the fugitive Council on board the schooner *Phoenix* relates how their military member had written "a complimentary letter to the nawab," who had done their comrades to death, "complaining a little of the hard usage of the English Honorable Company, assuring him of his good intentions notwithstanding what had happened, and begging him in the mean while, till things were cleared up, that he would treat him at least as a friend, and give orders that our people might be supplied with provisions in a full and friendly manner." To such a depth of abasement had fallen the British power—that power to which in less than a year the field of Plassey, higher up the same river, was to give the mastery of Bengal.

Swiftly sailing past Calcutta, with its fourfold tiers of great ships, its fortress, palaces, domes, and monuments, we come upon a series of five early European settlements, from sixteen to twenty-eight miles above the British capital. Each one of these formed the subject of as high hopes as Calcutta; several of them seemed to give promise of a greater future. Every one of them is now deserted by trade; not one of them could be reached by the smallest ships of modern commerce. The Hugli quickly deteriorates above the limits of the Calcutta port, and the rival European settlements higher up are as effectually cut off from the sea as if they were buried, like the Buddhist harbor, in the mud of the delta.

The first of these settlements, sixteen miles by water above Calcutta, is the old Danish town of Serampur. It formed the outcome of a century of efforts by the Danes to establish themselves in Bengal. During the Napoleonic wars it was a prosperous port, many of our own ships sailing thence to avoid the heavy insurance paid by British vessels. Ships of six to eight hundred tons, the largest then in use, could lie off its wharves. In the second quarter of the present century the silt formations of the Hugli channel rendered it inaccessible to maritime commerce. The manuscript account of the settlement, drawn up

with minute care when we took over the town from the Danes in 1845, sets forth every detail, down to the exact number of hand-loom, burial-grounds, and liquor-shops. But throughout its seventy-seven folio pages I could discover not one word indicating the survival of a sea-going trade.

On the opposite or eastern bank, a couple of miles further up, lay an ancient German settlement, Bankipur, the scene of an enterprise on which the eyes of European statesmen were once malevolently fixed. No trace of it now survives; its very name has disappeared from the maps, and can only be found in a chart of the last century. Carlyle, with picturesque inaccuracy, describes that enterprise as the third shadow hunt of Emperor Karl the Sixth. "The Kaiser's Imperial Ostend East India Company," he says, "which convulsed the diplomatic mind for seven years to come, and made Europe lurch from side to side in a terrific manner, proved a mere paper company, never sent ships, only produced diplomacies, and 'had the honor to be.'" As a matter of fact, the company not only sent ships, but paid dividends, and founded settlements which stirred up the fiercest jealousy in India. Although sacrificed in Europe by the emperor to obtain the Pragmatic Sanction in 1727, the Ostend Company went on with its business for many years, and became finally bankrupt in 1784. Its settlement on the Hugli, deserted by the Vienna court, was destroyed in 1733 by a Muhammadan general, whom the rival European traders stirred up against it. The despairing garrison and their brave chief, who lost an arm by a cannon-ball, little thought that they would appear in history as mere paper persons and diplomatic shadows who had only "had the honor to be." The European companies were in those days as deadly to each other as the river was destructive to their settlements. When Frederick the Great sent a later expedition, the native viceroy of Bengal warned the other Europeans against the coming of the German ships. "God forbid that they should come this way!" was the pious response of the president of the English Council; "but should this be the case, I am in hopes that through your uprightness they will be either sunk, broke, or destroyed."

A few miles higher up the river on the western bank, the French settlement of Chandernagar still flies the tricolor. In the last century it was bombarded by English vessels of war. A great silt bank,

which has formed outside it, would now effectually protect it from any such attack. A grassy slope has taken the place of the deep water in which the admiral's flagship lay. Captured and recaptured by the British during the long wars, the settlement now reposes under international treaties, a trim little French town landlocked from maritime commerce. A couple of miles above it lies the decayed Dutch settlement Chinsura; and another mile further on was the ancient Portuguese emporium, Hugli Town. Both of these were great resorts of sea-going trade before Calcutta was thought of. In 1632, when the Muhammadans took Hugli Town from the Portuguese, and made it their own royal port of Bengal, they captured over three hundred ships, large and small, in the harbor. As one now approaches the old Dutch and Portuguese settlements, a large alluvial island, covered with rank grasses and a few trees, divides the stream into uncertain channels, with lesser silt formations above and below. Noble but-tressed houses and remains of the river wall still line the banks of the land-locked harbors. Then the marvellous new railway bridge seems to cross the sky, its three cantilever spans high up in the air above the river, with native boats crawling like flies underneath. Beyond rise the tower and belfry of the Portuguese monastery of Bandel, the oldest house of Christian worship in Bengal, built originally in 1599. The Virgin in a bright blue robe, with the infant in her arms, and a garland of fresh rosemaries round her neck, stands out aloft under a canopy. Two lamps ever lit by her side served as beacons during centuries to the European ships which can never again ascend the river. They now guide the native boatmen for miles down the decaying channels.

From this point upwards, the Hugli River is a mere record of ruin. An expanse of shallows spreads out among silt formation, stake-nets, and mud. Oval-bottomed country boats, with high painted sterns, bulging bellies, and enormous brown square sails, make their way up and down with the tide. But the distant high banks, crowned by venerable trees, and now separated from the water by emerald-green flats, prove that a great and powerful river once flowed past them. For some miles the channel forms the dwindled remains of an ancient lake. Old names, such as the Sea of Delight, now solid land, bear witness to a time when it received the inflow of rivers long dead or in decay.

From this mighty mass of waters one arm reached the sea south-eastward, by the present Hugli trough; another, and once larger, branch, known as the Saraswati, or Goddess of Flowing Speech, broke off to the south-west. At their point of bifurcation stands Tribeni, a very ancient place of pilgrimage. But the larger western branch, or Goddess of Speech, is now a silent and dead river, running for miles as a green broad hollow through the country, with a tidal ditch which you can jump across in the dry weather.

Yet on this dead western branch flourished the royal port of Bengal from a prehistoric age till the time of the Portuguese. Its name, Satgaon, refers its origin to the Seven Sages of Hindu mythology, and the map of 1540 A.D. marks its river as a large channel. Purchas in the beginning of the next century describes it as "a reasonable fair citie for a citie of the Moores, abounding with all things." Foreign trade sharpened the wits of the townsmen, and a Bengali proverb still makes "a man of Satgaon" synonymous with a shrewd fellow. In the sixteenth and seventeenth centuries its river silted up, and the royal port of Bengal was transferred to Hugli Town. I walked a few miles along the broad depression where once the river had flowed, and searched for the ancient city. I found only a region of mounds covered with countless fragments of fine bricks, buried under thickets of thorn and stunted palms. I asked a poor nomadic family of sugar-makers, who were boiling down the date-juice into syrup in earthen pots under a tree, "Where was the fort?" They pointed to the jungle around. I asked, "Where was the harbor?" For a time they could not comprehend what I wanted. At length the father took me to a dank hollow, and said that some years ago the floods, in the rainy season, had there washed out the timbers of a sea-going ship from deep under the ground.

What caused this ruin? I have said that although the Hugli now receives no important affluent on its western bank, yet at one time a great tributary flowed into it from that side. This was the Damodar, which brings down the drainage of the western plains and highlands of lower Bengal. It originally entered the Hugli a few miles above the Saraswati branch on which lay the royal port. But between 1500 and 1800 A.D. its floods gradually worked a more direct passage for themselves to the south. Instead of entering the Hugli about thirty-five miles above

Calcutta, it now enters the Hugli nearly thirty-five miles below Calcutta. The Hugli trough, therefore, no longer receives its old copious water-supply throughout the intermediate seventy miles. Its bed accordingly silted up, and certain old branches or off-takes from it, like the one on which lay the royal Muhammadan port of Bengal, have died away. This great fluvial revolution, after preparing itself during three centuries, ended in fifty years of terrible catastrophes. The ancient mouth of the Damodar into the Hugli above Calcutta had almost completely closed up, while the inundations had not yet opened to a sufficient width the new channel to the south. In 1770, for example, the Damodar floods, struggling to find a passage, destroyed the chief town of that part of Bengal. During many years our officers anxiously considered whether it was possible to reopen by artificial means its old exit into the Hugli. "Picture to yourself," writes a Calcutta journal of its flood in 1823, "a flat country completely under water, running with a force apparently irresistible, and carrying with it dead bodies, roofs of houses, palanquins, and wreck of every description."

Proceeding upwards from the old mouth of the Damodar, the Hugli abandons itself to every wild form of fluvial caprice. At places a deep cut; at others a shallow expanse of water, in the middle of which the fishermen wade with their hand-nets; or a mean new channel, with old lakes and swamps which mark its former bed, but which are now separated from it by high sandy ridges. Nadiya, the old Hindu capital, stands at the junction of its two upper headwaters, about sixty-five miles above Calcutta. We reached the ancient city through a river chaos, emerging at length upon a well-marked channel below the junction. It was from Nadiya that the last Hindu king of Bengal, on the approach of the Muhammadan invader in 1203, fled from his palace in the middle of dinner, as the story runs, with his sandals snatched up in his hand. It was at Nadiya that the deity was incarnated in the fifteenth century A.D. in the great Hindu reformer, the Luther of Bengal. At Nadiya the Sanskrit colleges, since the dawn of history, have taught their abstruse philosophy to colonies of students, who calmly pursued the life of a learner from boyhood to white-haired old age.

I landed with feelings of reverence at this ancient Oxford of India. A fat benevolent abbot paused in fingering his beads to salute me from the verandah of

a Hindu monastery. I asked him for the birthplace of the divine founder of his faith. The true site, he said, was now covered by the river. The Hugli had first cut the sacred city in two, then twisted right round the town, leaving anything that remained of the original capital on the opposite bank. Whatever the water had gone over, it had buried beneath its silt. I had with me the Sanskrit chronicle of the present line of Nadiya rajas. It begins with the arrival of their ancestor, one of the first five eponymous Brahman immigrants into Bengal, according to its chronology, in the eleventh century A.D. It brings down their annals from father to son to the great raja of the eighteenth century, Clive's friend, who received twelve cannons as a trophy from Plassey. So splendid were the charities of this Indian scholar-prince, that it became a proverb that any man of the priestly caste in Bengal who had not received a gift from him could be no true Brahman. The rajas long ago ceased to reside in a city which had become a mere prey to the river. Nadiya is now a collection of peasants' huts, grain-shops, mud colleges, and crumbling Hindu monasteries, cut up by gullies and hollows. A few native magnates still have houses in the holy city. The only objects that struck me in its narrow lanes were the bands of yellow-robed pilgrims on their way to bathe in the river; two stately sacred bulls which paced about in well-fed complacency; and the village idiot, swollen with monastic rice, listlessly flapping the flies with a palm-leaf as he lay in the sun.

Above Nadiya, where its two upper headwaters unite, the Hugli loses its distinctive name. We thread our way up its chief confluent, the Bhagirathi, amid spurs and training-works and many engineering devices; now following the channel across a wilderness of glistening sand, now sticking for an hour in the mud, although our barge and flat-bottomed steamer only draw twenty inches of water. In a region of wickerwork dams and interwoven stakes for keeping the river open, we reach the field of Plassey, on which in 1757 Clive won Bengal. After trudging about with the village watchman, trying to make out a plan of the battle, I rested at noon under a noble pipal tree. Among its bare and multitudinous roots, heaps of tiny earthenware horses, with toy flags of talc and tinsel, are piled up in memory of the Muhammadan generals who fell in the fight. The venerable tree has become a place of pilgrimage for both Musulmans and

Hindus. The custodian is a Muhammadan, but two of the little shrines are tipped with red paint in honor of the Hindu goddess Kali. At the yearly festival of the fallen warriors, miraculous cures are wrought on pilgrims of both faiths.

I whiled away the midday heat with a copy of Clive's manuscript despatch to the secret committee. His account of the battle is very brief. Finding the enemy coming on in overwhelming force at day-break, he lay with his handful of troops securely "lodged in a large grove, surrounded with good mud banks." His only hope was in a night attack. But at noon, when his assailants had drawn back into their camp, doubtless for their midday meal, Clive made a rush on one or two of their advanced positions, from which their French gunners had somewhat annoyed him. Encouraged by his momentary success, and amid a confusion caused by the fall of several of the nawab's chief officers, he again sprang forward on an angle of the enemy's entrenchments. A panic suddenly swept across the unwieldy encampment, probably surprised over its cooking-pots, and the battle was a six miles' pursuit of the wildly flying masses.

A semicircle of peasants gathered round me, ready with conflicting answers to any questions that occurred as I read. Fifty years after the battle of Plassey the river had completely eaten away the field on which it was fought. "Every trace is obliterated," wrote a traveller in 1801, "and a few miserable huts overhanging the water are the only remains of the celebrated Plassey." In a later caprice the river deserted the bank, which it had thus cut away, and made a plunge to the opposite or western side. The still water which it left on the eastern bank soon covered with deep silt the site of the battlefield that it had once engulfed. Acres of new alluvial formations, meadows, slopes, and green flats gently declining to the river, take the place of Clive's mango grove and the nawab's encampment. The wandering priest, who served the shrines under the tree, presented me with an old-fashioned leaden bullet which he said a late flood had laid bare.

Some distance above Plassey lies Murshidabad, once the Muhammadan metropolis of lower Bengal, now the last city on the river of ruined capitals. Here, too, the decay of the channel would have sufficed to destroy its old trade. But a swifter agent of change wrought the ruin of Murshidabad. The cannon of Plassey

sounded its doom. The present nawab, a courteous, sad-eyed representative of the Muhammadan viceroys from whom we took over Bengal, kindly lent me one of his empty palaces. The two Englishmen whom his Highness most earnestly inquired after were the Prince of Wales and Mr. Roberts, junior. Indeed he was good enough to show me some pretty fancy strokes which he had learned from the champion billiard-player. Next evening I looked down from the tower of the great mosque on a green stretch of woodland, which Clive described as a city as large and populous as London. The palaces of the nobles had given place to brick houses; the brick houses to mud cottages; the mud cottages to mat huts; the mat huts to straw hovels. A poor and struggling population was invisible somewhere around me, but in dwellings so mean as to be buried under the palms and brushwood. A wreck of a city with bazaars and streets was there. Yet, looking down from the tower, scarce a building, save the nawab's palace, rose above the surface of the jungle.

Of all the cities and capitals that man has built upon the Hugli, only one can now be reached by sea-going ships. The sole survival is Calcutta. The long story of ruin compels us to ask whether the same fate hangs over the capital of British India. Above Calcutta, the headwaters of the Hugli still silt up, and are essentially decaying rivers. Below Calcutta, the present channel of the Damodar enters the Hugli at so acute an angle that it has thrown up the James and Mary Sands, the most dangerous river-shoal known to navigation. The combined discharges of the Damodar and Rupnarayan rivers join the Hugli, close to each from the same bank. Their intrusive mass of water arrests the flow of the Hugli current, and so causes it to deposit its silt, thus forming the James and Mary. In 1854 a committee of experts reported by a majority that, while modern ships required a greater depth of water, the Hugli channels had deteriorated, and that their deterioration would under existing conditions go on. The capital of British India was brought face to face with the question whether it would succumb, as every previous capital on the river had succumbed, to the forces of nature, or whether it would fight them. In 1793 a similar question had arisen in regard to a project for reopening the old mouth of the Damodar above Calcutta. In the last century the government decided, and with its then meagre resources

of engineering wisely decided, not to fight nature. In the present century the government has decided, and with the enlarged resources of modern engineering, has wisely decided, to take up the gage of battle.

It is one of the most marvellous struggles between science and nature which the world has ever seen. In this article I have had to exhibit man as beaten at every point; on another opportunity I may perhaps present the new aspects of the conflict. On the one side nature is the stronger; on the other side science is more intelligent. It is a war between brute force and human strategy, carried on not by mere isolated fights, but by perennial campaigns spread over wide territories. Science finds that although she cannot control nature, yet that she can outwit and circumvent her. As regards the headwaters above Calcutta, it is not possible to coerce the spill-streams of the Ganges, but it is possible to coax and train them along the desired channels. As regards the Hugli below Calcutta, all that can be effected by vigilance in watching the shoals and by skill in evading them is accomplished. The deterioration of the channels seems for the time to be arrested. But Calcutta has deliberately faced the fact that the forces of tropical nature may any year overwhelm and wreck the delicate contrivances of man. She has, therefore, thrown out two advanced works in the form of railways toward the coast. One of these railways taps the Hugli where it expands into an estuary below the perilous James and Mary shoal. The other runs south-east to a new and deep river, the Matla. Calcutta now sits calmly, although with no false sense of security, in her state of siege; fighting for her ancient waterway to the last, but provided with alternative routes from the sea, even if the Hugli should perish. *Sedet æternumque sedebit.*

W. W. HUNTER.

From The Westminster Review.
DR. JOHNSON ON IRELAND.

WHENEVER the public mind is agitated and parties struggle over their prey, a singular phenomenon is always observed. There is a great resurrection; the tombs give forth their dead, or, to banish the graveyard simile, there is a reawakening of the immortals. We little men in trouble about our souls try to find out what the great men of the past would have said

to us if we had asked for their advice. Some of us, like Professor Tyndall, are so devout that we go to the Bible and find out St. Paul's opinions on home rule for Ireland. The time which has elapsed since the age of the apostle, though geologically short, is historically considerable. The changes in the interval have been great. The apostle never alluded to that or any similar subject. It is therefore possible to construct his opinion without the slightest fear of contradiction, and to promulgate it as a dogma with the combined authority of indirect inspiration in the first century and direct in the nineteenth. But in an age of scepticism the effect is small. The guidance we require must be more explicit and less rhapsodical.

It is at the risk of being met by a similar retort that we have thought it worth while to put together Dr. Johnson's utterances on Ireland and the Irish. We do not, however, ask any one to vote for home rule because Dr. Johnson spoke against a union. He was a great dictator, but he need not forever be obeyed. We cannot be sure that he would have said the same to-day that he did a hundred years ago. In the eighteenth century it was still possible for a man to adhere to his faith; in the nineteenth it is more fashionable to change one's opinions, and Dr. Johnson might have followed the fashion. Our object, therefore, is rather historical than controversial, rather descriptive than polemical. His opinions seem to us to possess a lasting interest even where they are most at variance with more progressive modern ideas. It is an interest which would still be felt even if no single citizen survived who agreed with Dr. Johnson about anything. Several causes may be assigned. The personal power and uprightness of the man, which made him a dictator among his contemporaries, still live in his recorded utterances. One may still listen to him and see him as one reads Boswell's wonderful biography. Whatever he said, therefore, comes to us as vividly as it would from the lips of a living master.

This, it may be urged, is a reason for reading Boswell's "Life," but not an excuse for writing articles about Johnson. Granted; but there are still two aspects of his work which Boswell hardly expresses, and which nevertheless partly account for the enduring interest of his political dogmas.

The first is that he was not a politician. A great deal too much has been said about

the danger of literary men having political power without political experience. It has for the most part been written by literary men, who have failed to get political power, about other writers who have been more fortunate than themselves. The other side of the truth should also be emphasized. If literary men have sometimes failed as practical politicians, it is mainly because they generalize too much. The politician confines his attention to the facts before him, the *littérateur* is apt to go wandering over the universe for illustration and analogy. For the moment the politician, especially under a parliamentary system, is the more successful. Burke even may be said to have been a failure as a parliamentarian. But a hundred years afterwards the relative value of their writings and speeches is generally reversed. For every one man who reads the speeches of the younger Pitt, there must be fifty who read the speeches of Burke. The generalization which, however just, is a bar to immediate success gives an interest which is universal and eternal. Poor M. Bailly was aiming at the truth when he told the electors of Paris in 1789 that "facts only present variety and uncertainty; there is no fixed rule but reason." If the *littérateur* be a small or a foolish man, no doubt his lucubrations will only grow more ridiculous with the lapse of ages; but if he be a man of power above his fellows, his writings will be important when the practical politician is almost forgotten. It is just this which makes us listen to Dr. Johnson, though probably one hundred years ago we might have paid more attention to Lord Bute and Sir Thomas Robinson. He was one of the few Englishmen of the last century who possessed strong, masculine minds of the first order, but did not apply themselves to the business of politics. Arthur Young would never have produced as useful a blue-book for posterity if he had been a practical politician. Johnson, with all his prejudices and prepossessions, nevertheless is more interesting to read, because he looked at things as a man only raised above the crowd by an eccentric pedestal of his own creation.

He is interesting, therefore, in his personal power and in his isolation from active political life. He is also interesting as the representative of a class which is now fast being extinguished. He was a Tory of the old school. The new Tory is a creature of the caucus, which he calls a Conservative Association. His opinions are based on a sense (mistaken or other-

wise) of his own interests and the interests of his party. Principles in the strict and accurate sense of the word he can hardly be said to have. In his most unfavorable aspect he uses the things which of old were accounted most sacred, merely to catch votes or point a peroration. The monarchy and the Established Church have their recognized oratorical and electoral value. He calls his opponent an anarchist and an infidel, and his female supporters believe him. He uses the national ensign as a window-blind in his committee-rooms. When his party is in opposition, he calls the ministry cowards whenever they are not at war with somebody. When his party is in office it gives in all over the world, and he calls it "peace with honor." He tells the farmers that he is in favor of taxing corn without raising the price of bread, and assures the laborers that protection is not a question of practical politics. He makes each of his supporters believe that all his gyrations are merely due to a desire to advance that supporter's peculiar interests. To a foreign observer it might appear that the leader of the new Toryism was an impostor, and his supporters either his accomplices or his dupes.

But the old Tory was none of these things. He held his political principles as sacred as articles of faith. To him the Church was the centre of spiritual aspirations, and the monarchy an institution for which in extremities it might be necessary to die. He supported the landed interest from a love of all that was old and patriarchal. He had many prejudices, and held to them with the obstinacy of belief. But at the same time he had a wholesome and honest hatred of injustice and cruelty, which raised him on a pinnacle above the whole herd of Continental Conservatives. It was very easy to differ from such a man, but it was impossible not to respect him. Here and there in a country parsonage or manor-house survivors of the old Tory race may still be found, but their proportion to the whole body is infinitesimal. Dr. Johnson was perhaps the most notable of them all, and it may be interesting to find out what the great old Tory had to say about Ireland.

The task is made easier in Dr. Birkbeck Hill's edition of Boswell's "Life,"* which for splendor, accuracy, and completeness excels that of any other English classic.

It must be premised, in the first place,

* Oxford, at the Clarendon Press. 1887. 6 vols.

that Dr. Johnson had never been in Ireland. Boswell says: "He, I know not why, showed upon all occasions an aversion to go to Ireland, where I proposed to him that we should make a tour. JOHNSON: 'It is the last place where I should wish to travel.' BOSWELL: 'Should you not like to see Dublin, sir?' JOHNSON: 'No, sir; Dublin is only a worse capital.' BOSWELL: 'Is not the Giant's Causeway worth seeing?' JOHNSON: 'Worth seeing? yes; but not worth going to see.'"

But if he did not go to Ireland, he at least knew as much about it as most people who in these latter days go over to "study the question on the spot." He had, as few Englishmen have, a generous and intelligent appreciation of the Irish character. As Boswell expresses it, "he had a kindness for the Irish nation," in strong contrast with his somewhat unreasoning hostility towards the Scotch. He could hit off their little foibles with kindly humor:—

My much-valued friend Dr. Bernard, now Bishop of Killaloe, having once expressed to him an apprehension that if he should visit Ireland, he might treat the people of that country more unfavorably than he had done the Scotch, he answered, with a strong double-edged wit, "Sir, you have no reason to be afraid of me. The Irish are not in a conspiracy to cheat the world by false representations of the merits of their countrymen. No, sir. The Irish are a fair people; they never speak well of one another."†

Elsewhere it is the family pride of the old Celts to which he alludes with admiring smile:—

Dr. Johnson mentioned that the few ancient Irish gentlemen yet remaining have the highest pride of family; that Mr. Sandford, a friend of his, whose mother was Irish, told him that O'Hara (who was true Irish, both by father and mother) and he, and Mr. Ponsonby, son of the Earl of Bessborough, the greatest man of the three but of an English family, went to see one of these ancient Irish, and that he distinguished them thus: "O'Hara, you are welcome! Mr. Sandford, your mother's son is welcome! Mr. Ponsonby, you may sit down!"‡

He respected the ready resource of the Irish adventurer, never abashed or disheartened by his poverty. Here is a story which he tells of Derrick:—

Sir, I honor Derrick for his presence of mind. One night, when Floyd, another poor

* Boswell's Life, Ed. Birkbeck Hill, vol. iv., p. 470.

† Boswell's Life, ii. 307.

‡ Ibid., v. 263 (Tour in the Hebrides).

author, was wandering about the streets in the night, he found Derrick fast asleep upon a bulk; upon being suddenly waked, Derrick started up: "My dear Floyd, I am sorry to see you in this destitute state; will you go home with me to *my* lodgings?"*

But no one ever saw Derrick's lodgings; in those days Irish literary adventurers had to live cheap, and lodgings are about the easiest thing to economize in. Many a greater man than Derrick slept "on a bulk." Rousseau says he was very comfortable in the open air at Turin.

Dr. Johnson's treatment of the occasional Irish tendency to exaggerate is characteristic and curious. Take the following little story from Boswell:—

When I pointed out to him in the newspaper one of Mr. Grattan's animated and glowing speeches in favor of the freedom of Ireland, in which this expression occurred (I know not if accurately taken): "We will persevere, till there is not one link of the English chain left to clank upon the rags of the meanest beggar in Ireland." "Nay, sir (said Johnson), don't you perceive that *one* link cannot clank?"†

A statement, curiously alike in metaphor and sentiment, has been by his enemies ascribed to Mr. Parnell. None of them said, with Boswell, "I know not if accurately taken." And when ministers and pressmen multiply instances of overstatement made under excitement and provocation, would it not be much better to treat them as Dr. Johnson does from the point of view of the grammarian? Grammar is to rhetoric as cold water is to a mob of rioters.

But Dr. Johnson had better Irish friends than Derrick, and had listened to an Irish orator who was even greater than Grattan. The most lovable man of the century was Goldsmith; the greatest giant of the age in mental stature was Burke. He loved one and listened with warm-hearted admiration to the other, though Goldsmith was a spendthrift and Burke a Whig. It was probably in Goldsmith that he learnt to love the Irish character, and from Burke that he learnt to understand Irish affairs.

In his judgment on Swift he shows an appreciation for the author of the "Draper's Letters," which is all the more remarkable because he could not appreciate "Gulliver's Travels," and believed that Swift had not sufficient ability to have written the "Tale of a Tub."

Swift, he says, "delivered Ireland from plunder and oppression, and showed that wit, confederated with truth, had such force as authority was unable to resist. He said truly of himself that Ireland was his debtor. It was from the time when he first began to patronize the Irish that they may date their riches and prosperity. He taught them first to know their own interest, their weight, and their strength, and gave them spirit to assert that equality with their fellow-subjects to which they have ever since been making vigorous advances, and to claim those rights which they have at last established. Nor can they be charged with ingratitude to their benefactor, for they revered him as a guardian, and obeyed him as a dictator."*

And again to Dr. Maxwell, an Irishman, who was preacher at the Temple, he said: "Swift was a man of great parts, and the instrument of much good to his country. Berkeley was a profound scholar, as well as a man of fine imagination; but Ussher was the great luminary of the Irish Church, and a greater (he added) no Church could boast of, at least in modern times."†

His interest in earlier Irish history was still more remarkable, though his knowledge was not very accurate or very extensive. "Dr. Leland," he says, "begins his history too late; the ages which deserve an exact inquiry are those times (for such they were) when Ireland was the school of the West, the quiet habitation of sanctity and learning."‡ A certain Charles O'Connor wrote a "Dissertation on the History of Ireland." Dr. Johnson read it, and wrote to the author to encourage him in the task he had undertaken.§ This was in 1757. It is sad to find a letter written to the same Mr. O'Connor, in 1777, to reprove him for leaving his work undone.

The extracts we have so far given are only the expression of the ordinary sympathy of a literary man. But Dr. Johnson had also a strong interest in Ireland, and firm opinion as to its government. His lingering Jacobitism made him sympathize with men who had suffered for the faith of their fathers. "He had," said Dr. Maxwell, "great compassion for the miseries and distresses of the Irish nation, particularly the Papists, and severely reprobated the barbarous debilitating policy of the British government, which, he said, was the most detestable mode of persecution.

* Works (Hawkins' Ed.), iii. 403.

† Boswell's Life, Ed. B. Hill, ii. 232.

‡ Ibid., iii., 117.

§ Boswell's Ed., i. 321.

* Boswell's Life, i. 451.

† Ibid., iv., 317.

To a gentleman who hinted such policy might be necessary to support the authority of the English government, he replied by saying: 'Let the authority of the English government perish rather than be maintained by iniquity. . . . Better to hang or drown people at once than by an unrelenting persecution to beggar and starve them.'^{*}

Still more remarkable is the following statement, given by Boswell under the date 1773:—

BOSWELL: "Pray, Mr. Dilly, how does Dr. Leland's History of Ireland sell?" JOHNSON (bursting forth in a generous indignation): "The Irish are in a most unnatural state, for we see there the minority prevailing over the majority. There is no instance, even in the ten persecutions, of such severity as that which the Protestants of Ireland have exercised against the Catholics. Did we tell them we have conquered them it would be above-board; to punish them by confiscation and other penalties as rebels was monstrous injustice. King William was not their lawful Sovereign: he had not been acknowledged by the Parliament of Ireland, when they appeared in arms against him."[†]

Macaulay, with all his superior knowledge, was never able to grasp this essential fact as clearly as Dr. Johnson sees it. Prejudiced Tory that Johnson was, he had a warm heart and a "generous indignation," which made him detest the penal laws and the selfish commercial restrictions. Heart and mind forced him likewise to oppose the project of a Union. He expresses his antipathy with his usual grim humor, with the almost inevitable hit at the Scotch, but none the less honestly and gravely. He "thus generously expressed himself to a gentleman from that country (Ireland) on the subject of an UNION which artful politicians have often had in view, 'Do not make an Union with us, sir. We should unite with you only to rob you. We should have robbed the Scotch if they had had anything of which we could have robbed them.'"[‡] This was in 1779.

At the same time he had a hearty contempt for the "Castle clique." In 1783 he said to Wyndham, who was setting out for Ireland as secretary to the lord lieutenant: "You will become an able negotiator, a very pretty rascal. No one in Ireland wears even the mask of incorruption, no one professes to do for sixpence what he can get a shilling for doing."[§]

More remarkable still is the following, a record of his early life, when in 1756 he showed a hearty sympathy for one of the victims of the "Castle":—

A still stronger proof of his patriotic spirit occurs in his review of an "Essay on Waters, by Dr. Lucas," of whom, after describing him as a man well known to the world for his daring defiance of power, when he thought it exerted on the side of wrong, he thus speaks: "The Irish Ministers drove him from his native country by a proclamation, in which they charged him with crimes of which they never intended to be called to the proof, and opposed by methods equally irresistible by guilt and innocence. Let the man thus driven into exile for having been the friend of his country, be received in every other place as a confessor of liberty; and let the tools of power be taught in time, that they may rob, but cannot impoverish."^{*}

Dr. Charles Lucas was not a man of very high tone or of first-rate ability. Persistent as he was, he nevertheless hardly deserves to be ranked with Molyneux and Swift. It is all the more remarkable, therefore, that Johnson should have so cordially supported him in his struggle against the intolerant section in Ireland. Perhaps there may be some "old Tories" left, who, in their heart of hearts, admire the still greater courage and wider ability of Mr. William O'Brien.

Two extracts more may be given to which a somewhat melancholy interest is attached. "The Irish," Johnson says, "mix better with the English than the Scotch do; their language is nearer to the English; as a proof of which they succeed very well as players, while the Scotch do not. Then, sir, they have not that intense nationality which we find in the Scotch."[†] Sir Joshua Reynolds agrees with Boswell's statement. He says: "Against the Irish he entertained no prejudice; he thought they united well with us."[‡] Dr. Johnson was not a blind observer or an inaccurate one. He had abundant opportunities for observing English, Irish, and Scotch together. There is no reason, therefore, to doubt the accuracy of his observation a century ago. It is strange that eighty-seven years of "Union" should have caused so great a divergence. The old Tory policy was wiser though the old Tories were not professional politicians. Dr. Johnson's generous sympathy would have done more good than Lord Randolph Churchill's opportunism or Mr. Balfour's able and irritating administration.

* Boswell's Ed., ii. 121.

† Ibid., ii. 255.

‡ Ibid., iv. 410.

§ Ibid., iv. 200.

* Boswell's Ed., i. 311.

† Ibid., ii. 242.

‡ Ibid., iv. 169, note.

There is one other point that must be noticed. It may be objected that Dr. Johnson's sympathy for Ireland was at variance with his often-expressed hostility towards the American colonies. The objection is of some importance, for if it could be shown that he was actively and consciously an enemy of liberty in America, his occasional expressions of pity for Ireland would lose much of their force. But when one reads his pamphlet on "Taxation no Tyranny" (1775), one's first impression is considerably modified. The greater part of the space is taken up with a dignified reply to the declaration of the Americans that the English Parliament had no right to tax them. That claim as of right was never supported by Burke. It was urged by Chatham, but Chatham's idea of right was very different from that supported by the law of the constitution, and for that very reason much vaguer than the Americans intended. They made a legal and constitutional claim, he a moral claim. Johnson is primarily concerned with the first, and his argument must be pronounced conclusive by many who on wider grounds would be ready to sympathize with the Americans. It may be summed up in three propositions:—

1. "In sovereignty there are no gradations. There may be limited royalty, there may be limited consulship, but there can be no limited government. There must in every society be some power or other from which there is no appeal."*

2. That power is in the British empire the Imperial Parliament.

3. "The supreme power of every community has the right of requiring from all its subjects such contributions as are necessary to the public safety or public prosperity."†

Now the first of these propositions will not be dissented from by any reader of Austin. The second was then complicated, as Johnson saw (p. 221), by the peculiar constitutional position of Ireland. With that exception it is indisputably true. No less obvious is the third. Yet it is hard to see how any one could maintain the claim of the Americans as of right in the face of those three propositions. Dr. Johnson, who had a good deal of that theological temperament which neglects all mundane considerations of utility while arguing out an abstract thesis, was carried away by intellectual disgust at what seemed to him to be a gross

error of thought. With this feeling was combined a sense that the Americans were showing themselves ungrateful for England's great sacrifices during the seven years' war. It seems to us that these two considerations would have been sufficient to account for his attitude, without ascribing to him any "Jingoism" or any intolerance. But Dr. Birkbeck Hill has suggested an additional explanation. He tries to show* that the real cause of Dr. Johnson's opposition to the American colonists was his disgust at their acts as slave-owners. Without assuming that this was the sole cause, it may be admitted that the state of the negroes was never absent from Johnson's mind. He was one of the earliest abolitionists in England. In 1740 he maintained "the natural rights of the negroes to liberty and independence." In 1756 he speaks of Jamaica as "a place of great wealth and dreadful wickedness, a den of tyrants and a dungeon of slaves." He talks elsewhere of "the English barbarians that cultivate the southern islands of America." Once, "in company with some very grave men at Oxford, he gave as his toast, 'Here's to the next insurrection of the negroes in the West Indies.'" In this very pamphlet he skilfully replies to the argument that the subjugation of America would have meant the enslaving of Great Britain. "If slavery," he says, "be thus fatally contagious, how is it that we hear the loudest yelps for liberty among the drivers of negroes?"†

If his opposition to the Americans was reprehensible, it must nevertheless be admitted that his worst sin was constitutional pedantry, and his moving impulse pity for the slaves. His other writings show us that he was very far from being one of those scribes who are ever howling for war without pretext or pretence. He says in his pamphlet on the Falkland Island question: "It is wonderful with what coolness and indifference the greater part of mankind see war commenced. Those that hear of it at a distance or read of it in books, but have never presented its evils to their minds, consider it as little more than a splendid game, a proclamation, an army, a battle, and a triumph."‡ And in the following passage there is a true wisdom: "That such a settlement (*i.e.* the Falkland Islands) may be of use in war, no man that considers its situation will deny. But war is not the whole business of life; it happens but seldom, and

* Political Tracts, p. 180.

† *Ibid.*, p. 172.

* Appendix B. to vol. ii. in his edition of Boswell.

† Pol. Tracts, p. 262.

‡ *Ibid.*, p. 107.

every man either good or wise wishes that its frequency were still less. That conduct which betrays designs of future hostility, if it does not excite violence will always generate malignity; it must forever exclude confidence and friendship, and continue a cold and sluggish rivalry, by a sly reciprocation of indirect injuries, without the bravery of war, or the security of peace."* We know of no passage which expresses more happily the danger of the much misused maxim which tells us to secure peace by preparing for war. All praises of peace are generally condemned as truisms, because they are known by all men to be just, and yet by most people so far forgotten that they do not like to be reminded of them. But to Johnson a truism was often a vivid and active truth, and his condemnation of that factiousness which is too often mistaken for patriotism is earnest and sincere. The man whom Boswell called "a true-born Englishman" was free from the narrow bitterness of revengeful strife. His political ideas were in many ways crabbed or eccentric. He was a high Tory of the old school. But when we compare him with the blatant braggarts, the selfish and spiteful schemers, who have succeeded him, we cannot but look back with reverence on the old Tory who was a friend of Ireland and of peace.

* Pol. Tracts, p. 70.

From Macmillan's Magazine.
MY UNCLE'S CLOCK.

I HAVE heard people talk a good deal about my grandfather's clock, but I really think that my uncle's clock was a more remarkable thing. I did not notice anything peculiar about it in his lifetime, except that it was always stopped, being in this respect the exact opposite of that well-known clock of everybody's grandfather which went on ticking to the exact moment of the old gentleman's death. My uncle's clock stood in his bedroom, on the mantelpiece; and I always wondered that he, who liked everything about him to be in order, wound up, and working punctually, should allow this solitary specimen of incapacity to stare him in the face night and morning with a lying account of the hour. Once or twice when my uncle has been ill and I have gone to see him, I have walked up to that clock with the intention of setting it going and putting it right, but my uncle always stopped me with the sig-

nificant remark: "I rather think I'd let that clock alone, if I were you, James."

I took the hint without asking any questions. My uncle was not the sort of man who would stand a catechism very well; indeed, there were some points concerning his personal history, and the manner in which he had made his fortune, about which his most intimate friend, if at all a prudent man, would judge it best to make few inquiries. I do not mean that my uncle was not an honorable member of society, and a very useful one too; many owners of valuable estates, many county families, remember him still with respectful gratitude; but his occupation was of a very peculiar sort, one which would not bear much talking about; he was, in fact, a remover of ghosts.

What he did with the ghosts when he had got them nobody could guess. He did not travel with much luggage, and could not have carried them away in his boxes. They were not in his own home; a quieter, better-ordered establishment than that never existed; the very rats were not allowed to make a noise there. One thing only was certain, that when he undertook to remove a ghost that ghost never went back again; it was heard of no more. His knowledge of the world of phantoms was immense; I think I may say unique. He had studied all the existing literature of the subject, until there was not a ghost anywhere in the three kingdoms with whose habits, weaknesses, and prejudices he was not familiar. Not a phantom of them all could resist him; he could twist the whole spectre world (it is not, I believe, a very intelligent world) round his little finger. There was nothing he enjoyed more than facing an obstinate and self-opinionated old ghost—a ghost of a few hundred years' standing, with a conceit to match his age—having it out with that old ghost, and reducing him to submission.

My uncle never advertised himself in any way, and had to be approached cautiously by all who desired his services. He kept his ghost-laying within the strict limits of a profession, though not one generally acknowledged or frequently followed, and refused wages, though he would take a fee. His first effort was, I believe, achieved solely to oblige a friend; afterwards a whisper of his extraordinary powers went round, and every man who had a haunted house which he could not let, every family pursued by a dogged phantom which stuck to the ancestral residence after its natural term was over, every per-

son afflicted by an attendant spectre, applied to my uncle for relief. He never refused it, when it was properly asked for. On receiving a summons to the practice of his profession, he packed up his traps and went off with his manservant. Sometimes it would take him weeks to remove a ghost; sometimes he would do it in half an hour. The fees he received for his services varied from a hundred pounds (he never would take less, — rather than that, he did his work for nothing) to a thousand. There was one old gentleman who had been very much bothered for many years by an irritating phantom, who was always washing his hands in his presence, and asking him for a towel — an underbred ghost that, and one without any sense of the fitness of things! When this old gentleman was relieved of his trouble his gratitude was so great that, besides paying the customary fee, he left in his will five thousand pounds and perpetual right in the ghost, to my uncle and his heirs forever. I was my uncle's heir, but I did not know of the whole extent of his possessions when I stepped into them.

Well, my uncle died, and the secret of the ghosts, and what he had done with them, died with him. He left everything to me, and I immediately determined to have that clock put to rights. I could not do away with it, because there was a special clause in his will that it was to be left where it was, in the same room, on the same mantelpiece, facing the bed in which I intended to sleep. If I sent away that clock I forfeited my uncle's fortune; the estate and the clock went together, and were by no means, nor at any time to be separated. However, if I could not get rid of this piece of furniture, I could make it go; and this I resolved to do.

The first night that I slept in that particular room I had reached home late after a long journey, and, being very tired, forgot my resolution. I never had a better night's sleep in my life. But the next morning when I awoke, the clock faced me with its fingers impudently and lyingly pointing to half past two, when, as a matter of fact, I knew that it was just eight. I sprang out of bed and attacked that false witness. It wound up easily, and ticked regularly. Its internal organization had evidently suffered nothing from a prolonged holiday. Throughout the whole of that day it ticked cheerfully and kept well up to time; and as I put my head on the pillow that night, and heard it ticking industriously in the darkness, I felt that I had begun well my stewardship of the for-

tune left to me; the only thing which wanted doing in my uncle's house I had promptly done. Then followed the peace of a well-earned sleep.

Rats! could it be rats making that noise? Were there ever such impudent, ingenious, multifarious, abominable, and riotous rats as these? I don't know how long I had been asleep, but the noise which awoke me was something distracting. I sat up in bed and listened. No, it could not be rats. Rats could not groan dismally, rats could not giggle foolishly, nor could they wail hysterically. They might run about the passages with the sound as of a hundred pattering feet, but they could not talk in confidential whispers, nor could they appeal piteously for help, nor could they denounce one another in angry human tones.

A happy thought occurred to me. The servants were indulging in private theatricals. They had presumed on my youthful inexperience, and relied on the soundness of my slumbers; they were doubtless giving a ball or some similar entertainment to their friends in the small hours of the night. I got out of bed and made for the door. The passage beyond was in utter darkness. I thought I heard the sound of scuttling feet; then all was still. As I groped my way towards the butler's room, some one seemed to be following me with stealthy steps. I felt for a match, which I had in my pocket, and struck it; no one was near me, but an icy breeze rushed past me as from an open window, and my match went out. I groped my way on to the butler's door and banged at it.

"Timpkins," I said, "what is the meaning of all this?"

There was a moment's pause, and then a tremulous and husky voice answered from inside, "Is that you, sir?"

The fellow's teeth were absolutely chattering from fright; I could hear them, and the sound rejoiced me; it was well that he should feel a wholesome dread of my righteous wrath.

"Of course it's me. Open the door instantly!"

"I daren't, sir, not if it cost me my place;" and the teeth chattered audibly.

"Look here, Timpkins, you'd better not be such a fool as this. Why, man, I shan't slay you for it!"

"You, sir!" in an undoubted accent of astonishment, "it's not you that I'm afraid of. Oh, sir" — here the teeth chattered again — "can't you manage them better than this?"

"I'd better begin by managing you," I answered angrily; but he did not seem to hear me.

"Not a servant will stay with you if you let it happen again! They all left before, every one of them, and they'll do it again. I only stopped because your uncle swore to me that it should occur no more, and it didn't. What he did to them, and where he put them, I can't say. But he managed them somehow. There's a noise beginning. Oh, sir, do you think they are coming again?"

"What are you talking about, fellow?—the servants?"

"The servants? Goodness gracious, no sir! Do you think I'd let them carry on like that! It's not the least use, sir, rattling at that door, for I will *not* open it, not if I leave before breakfast to-morrow. This is not my business, sir, it's yours; you know that well enough, and I really think you might manage it a little better." Here he shuddered till the bed shook under him.

"I'll break the door in, Timpkins, if you don't tell me what you mean. The servants must have been making that awful row, and you know it."

"Not the servants, sir," he answered in a quivering voice; "it was the ghosts!"

The ghosts! the man was mad, or drunk. At that instant somebody certainly laughed a little mocking laugh in my ear, and I did not wait to argue the case any further. I bolted back to my room along the draughty passage, shut the door and locked it. At least there was no more noise that night. I did not sleep, but a peaceful silence prevailed, through which the clock ticked with undiminished cheerfulness.

The following morning Timpkins waited upon me at breakfast with irreproachable demeanor. When the meal was cleared away he respectfully requested permission to speak of the incidents of the night. The other servants had, he said, asked him, as the most experienced of them all in the ways of the house, to lay their grievances before me. I had not quite decided with what front it was best to face the awkward subject of the mysterious disturbance, so I just told him to go forward with what he had to say.

"Every one of them has something to complain of," he began. "There's the under-housemaid declares as a young man came and hanged himself in her room; a most unpleasant thing to happen to any respectable person, and, as the girl herself says, gentlemen should keep to their own

rooms and ladies to theirs, even if they do happen to be ghosts. There's not one of them that did not see something last night. I did myself, but I'd rather not speak of it. When I hear a thing in confidence, even from a ghost, I prefer to keep it to myself."

"Do so, by all means. I am not going to believe those ridiculous stories. I heard plenty of noise, but I saw nothing."

"I fancy, sir," he said significantly, "that would be because the ghosts don't properly know that your uncle's gone, so they dare not venture into his room. He had great control over them; I hope you'll manage to get some in time, or you'll have your house empty."

"I don't believe in the ghosts," I answered, with more irritation than truth.

"Well, sir, we all know, though it is not commonly spoken of, that your uncle was a—ahem! a ghost-collector. He went to places, and he brought 'em away with him, but what he did with 'em, and where he put 'em, nobody knew. Once or twice they broke out, and there was an awful row, but that hasn't happened for years. Last night, when the noise began, I said at once, 'They've broken loose again.' I do hope, sir, for your own sake, that you'll somehow manage to get the upper hand of them. Your uncle never gave you, I suppose, sir, a hint how to do it?"

"Never a word!"

"That's bad, but it'll happen come to you. I've spoken to the servants. They all wanted to leave this very day, but I've said to them: 'The new master's young and not experienced in the management of ghosts. Give him a fair trial, and he'll perhaps get them under, as the old master did.' They've agreed to stop for a week, and see how things go on. And I am sure, sir, you've the good wishes of us all that you may get well through with it soon." Then the respectable Timpkins departed, leaving me as much amazed and subdued in spirit as he desired the ghosts to become under my treatment. My treatment, indeed! I felt no ability left within me to cope with the rebellious phantoms who had broken loose.

Timpkins was right in his surmise, for the next night the ghosts invaded my bedroom. I awoke to find them in full possession. They seemed to be enjoying themselves amazingly in their own eccentric manner. There was a regular crowd of them. A lady in patches and high heels was dancing a minuet on the hearth-rug. A wicked-looking man with a gray beard was depositing a skull and a few

other relics of crime in a corner of the room; his manner was really amusingly secretive when you come to consider the crowded state of the apartment, but it did not amuse me at the time. A young man in a Cavalier dress was proposing in the shelter of the window-curtain to a young lady in a Puritan garb. A mad violinist was practising scales at the foot of the bed. A small boy, who produced the effect of having been deserted on the top of a mountain by a wicked uncle (I don't know how he did it in the circumstances, but ghosts have a peculiar talent for the histrionic art, and appear to be quite independent of scenic accessories), was screaming for assistance at the top of his voice. A philosopher was taking notes in my easy-chair. Last, but not least, a highwayman was explaining the details of his execution to me at one side of the bed, while a gentleman in a powdered wig, and holding a snuff-box, related to me old but not venerable court anecdotes on the other side.

The rest of that night I decline to describe. I reasoned with those ghosts; I stormed at them, I threatened them. Then I began to throw the furniture at them, but they did not even dodge; the missiles went clean through them without damaging them in the least; I broke the looking-glass and the water-bottle, that was all. Most of the ghosts took no notice whatever of my proceedings, but remained absorbed, like lunatics, in their own. One or two paused for a moment to smile at my helpless rage, and the young lady on the hearth-rug actually giggled with amusement. Clearly these ghosts were too many for me!

The next morning at breakfast I informed Timpkins that my portmanteau must be packed at once. I was going away for some time. He smiled a smile of satisfaction. "Very right indeed, sir, and I hope that you'll be successful and bring none of them back when you come!"

Evidently he thought that I was taking the ghosts away, whereas I was only flying from them; but I kept my own counsel, and departed by the midday train. A week's absence from home, in cheerful society and with cheerful surroundings, revived my spirits somewhat. I began to hope that the ghosts would have tired themselves out and gone; they could not always be working so hard. I would, at any rate, run down home and see what was happening there. The place looked so beautiful as I approached it — for my uncle had spared no expense in making it

all that a gentleman's residence should be — that I felt quite ashamed of having been driven away from it by a set of paltry ghosts, a mere phantom collection gathered together by my own uncle, principally for his profit, but partly also for his amusement, and out of a sort of *virtuoso* curiosity. "The finest collection of spectacles in the world," so he had been proud to consider them; and was I, the owner of the museum, to be afraid of my own specimens? The idea was absurd. I was received by Timpkins, whose air was preternaturally solemn.

"I'm afraid, sir, that you did not pack them as well as you thought," he remarked gravely. "Some of them must have got loose somehow, for they were at it as bad as ever the night after you left."

"Were they indeed?" I answered grimly.

"And for several nights after that," he went on. "The servants have all left. They stayed their week, and then they went. And as it happened the ghosts have been quiet ever since."

"Exactly so," I answered irritably. "I always said the servants were at the bottom of it."

He looked at me with surprise. "You don't think so, I'm sure, sir. It's just what they call a co-hincidence!"

Coincidence or not, the ghosts let me alone that night, but I got up the next morning in a very bad temper, notwithstanding. My uncle's servants had been admirably chosen, and knew their work thoroughly. It was tiresome to lose them all at one fell swoop of fate. I should have been absolutely alone in the house but for the faithful Timpkins, who still evidently hoped that I should "manage them." He had got the gardener's wife to come and cook for me in our temporary difficulty, and I ought to have been more grateful to him than I was. I am afraid that I wanted an excuse for being savage. I found one in the clock which had run down in my absence, and had not been attended to. I had not noticed this the night before.

"I declare, Timpkins," I remarked to that ill-used individual, "I think that my own room might at least be taken care of; I can understand that the rest of the house must be at sixes and sevens, but the place I sleep in ought to be in order."

Timpkins, in whose experienced eye I saw compassion for my pitiable situation, expressed regret that anything had been neglected. He had not been aware of it.

"It's the clock," I answered angrily;

"it has not been wound up, a thing that can be done in three minutes."

"Oh, the clock!" responded Timpkins, his countenance clearing. "I beg pardon, sir, but the old master never allowed any one to touch it. The last housekeeper (a very valuable person, sir) was sent away because she tried to make it go. If you want that clock winding up, sir, I'll take it as a particular favor if you'll do it yourself!"

I felt inclined to quarrel with him on the spot, but on the whole decided that I wouldn't; so I wound up the clock myself. That night, as the intelligent reader will be already aware, the ghosts came again. The intelligent reader has had the advantage of what I may call "selected circumstance" from which to draw his deductions; I was struggling with multifarious circumstances altogether unselected, which I have not put before him. Selected circumstance is what reveals to us the end of novels while the actors in them are struggling in a hopeless fog; this it is which makes us so much wiser than the philosophers, and so much sharper than the detectives, in the books we read. We are not really so clever as we think on most occasions.

Well, the ghosts came again, and I think that, on the whole, they behaved rather worse than before. They talked, screamed, groaned, and proposed at the very top of their voices, and without any regard to the proprieties. They quite disturbed the philosopher at his notes, and he looked at me in a remonstrant way, as who should say, "I really do think, you know, that you let them go too far."

But what was I to do? At first I could only add my groans to theirs. After a time the sound of the clock ticking joyously on through all the noise struck me oddly. I ceased my groans to listen to it; a saving thought flashed through my mind; the coincidence existed not with the servants, but with the clock. I leaped out of bed, I rushed through those ghosts as if they had been air—very chilly air they seemed to be too—and I put my finger on the swinging pendulum. There was a low wail of deep dismay, then—oh, joy! oh, happiness! oh, relief! the ghosts were gone!

I drew my breath with a long sigh of satisfaction, and felt the solitude like a paradise. But my troubles were not all over. The silence lasted about a minute, then I heard a slight sound, as if some one in the corner of the room was trying to speak to me. The voice was faint and

uncertain; it trembled and nearly ebbed away, then took body and went on. "I—er—really must protest. I—er—really can't consent to this. It—er—is not fair, not in the contract. You—er—have a perfect right not to wind it up, but to stop it—er—that was never agreed to."

I looked in the corner of the room and saw that the old philosopher had almost gone, but not quite; or, to speak more correctly, he had partly come back again. His form was as indistinct as his voice, it wavered like a candle in a breeze, and tried hard to keep itself together, that his limbs might not part company, like clouds before a tempest. "If you—er—would just let it go again while I talk to you," he pleaded, "the others—shan't—come back, and I'll tell you all—er—all about it." He nearly went out then and there, and only by a violent effort braced himself up into comparative solidity. He was a courageous old phantom.

I stood hesitating, with my finger on the clock. A wise man would have let well alone; but I was not wise. I wanted to know "all about it." I wanted to hear the secret of the clock and of the ghosts.

"You are sure they won't come back?" I asked.

"I—er—promise—honor of a gentleman. Just give me a few ticks; so hard to speak without. Ah—er—*thank you*"—in a clear voice of great relief, as I set the clock ticking.

Then the old gentleman began to gesticulate, and to talk violently, not to me, but to the other ghosts. Apparently they were gradually convinced by his eloquence (the details of which I could not quite catch), for it became less and less vehement; and at last the philosopher turned to me (he was now looking perfectly solid), and said with a smile, "It's all right, they have agreed to leave the negotiation in my hands. I always had great influence with them. Your uncle often consulted me on difficult affairs. Now we can sit down and talk comfortably together."

"Before I go any further in my communication," the phantom went on, with a glance at the clock which was comfortably ticking in front of us, "I must make one bargain with you, really a very moderate one. I have a great deal of valuable information to give you, and you cannot expect to have it, even from a ghost, for nothing."

"Tell me your terms," I responded with a brevity in strong contrast to his courteous circumlocution.

"They are very simple, very simple, indeed," he said, rubbing his hands together gently, and keeping his ghostly eye on me; "just that you should undertake to wind this clock up once a year. Merely that."

"That will, as I understand," I replied, frowning, "be equal to an invitation to the — er — to your agreeable friends to come back and make as much hubbub as they like."

"For eight days only, eight days, or nights, as I should more accurately say. What are those in a whole year? I must have something in return for what I tell you. Those at any rate are my terms." He pressed his unsubstantial lips firmly together. To be brief, I consented. It was again a foolish thing to do, but I was never wise, and my curiosity was aroused. I wanted to know about these curious people who lived somewhere on my premises. I can boast of as ancient a descent as most people, and one of my earliest ancestresses (some say the very earliest, but the point is now disputed) brought a good deal of trouble into our family by too curious a desire to know the flavor of an apple. I had inherited her curiosity. She was a very distinguished woman, and I am not going to blush for the family failing which owed its introduction to her. I consented then. The ghost sat down in my easy-chair, crossed his legs, and began his story with great affability.

"Your uncle was a very admirable man, and I should not wish to say a word against him. He had unusual powers. Everybody with unusual powers has a right to exercise them at the expense of weaker creatures. That is, I believe, an axiom of your most advanced thinkers. Having then such powers, he looked about for a subject to give them full scope, and he found — *us*. We were, each in our different spheres, pursuing our appointed tasks with great credit to ourselves and satisfaction to the community. Men respected us, women feared us; we had power, sir, and influence. There was not one of us who had not secured a comfortable situation, and was not doing his best to fulfil his duty in it. We were active then, and useful. We kept alive the past in the memory of the vulgar, who do not read and will not think; we threw out hints of the supernatural; we awakened the emotions of awe, wonder, compassion. Are not these the feelings, sir, which it was the ambition of your mighty poets in the past to inspire by their tragedies? You can all of you reverence Æschylus;

but who is grateful to a ghost? However, complaints are useless. Your uncle brought us from our various avocations, and shut us up together in a museum, like a set of mummies. What could we do there but become the trivial, miserable, deteriorated beings that we are? The dignity of our profession was gone. We could not frighten one another. We could not act without a public. We became mere puppets, and might as well have been worked by strings."

At this juncture I interrupted him. "Would you mind telling me the locality of that museum?" I asked.

"Not in the least," he answered courteously, "but it would be difficult for you to visit it, and inadvisable. Your uncle had it built on purpose for us. It is an immense underground vault, in a lonely spot in the park. After it was finished, the entrance was walled up and soil thrown over the whole, as before. There is no way in or out, except for ghosts. Your uncle did his best to make it comfortable for us. It is well furnished with secret passages, old pictures, oak chests, bones, cupboards, curtains, and other articles for which he thought we had a fancy. It is in fact a playground for us, but we wanted to work. Your uncle never could understand that; this was strange, because he understood it well enough for himself. We became so unhappy in that place, that at times we broke out, in spite of our respect for him, and our dread of his punishments, which were very ingenious, very ingenious indeed," added the phantom musingly, as if he remembered one or two which few men would have thought of. I wished that I could think of them.

"At last things got so bad between us, that I was appointed ambassador. I said to your uncle, 'Now look here, let us talk it over as man to man. Ghosts have not many rights, but they have a few, and really, you know, you should not trample them under foot. Our feelings may seem superficial, but they exist, you ought to remember that in dealing with us.' Your uncle listened to me quite kindly, and I put the matter before him still further. 'We don't want much; a very little satisfies us. Some ghosts are content to appear only once in a hundred years or so, but I never heard of a ghost who had not his appointed day out at some time or other. It is not reasonable, it is not fair to deprive him of it. We go on practising our parts down there, and we must have some chance, just the ghost of a chance as I may say, to appear in them before the

public. There must be a possibility of it to keep our minds easy. You ought to allow us that.' 'Very well,' said your uncle, 'I'll drive a bargain with you. Will you undertake that it shall be kept by all the others as well as yourself?' I answered that I was appointed to speak for the rest. 'Then,' said your uncle, 'I offer you this. You are free to come out and enjoy yourselves as you like, whenever that clock on my mantelpiece is going, *but at no other time*. That was the main feature of the compact we made; there were other small conditions, as that the clock was not to be removed from its place, or wilfully damaged in any way; the room was not to be kept locked up; no one except himself was to know the secret concerning it. These conditions I insisted upon, to give us a real chance of an occasional holiday, and your uncle agreed to them; but, would you believe it, sir," the phantom concluded with a deep sigh, "your uncle had such power of will that never, by any accident, was the clock wound up from that day until the hour of his death."

"And now," I responded gloomily, "I have actually undertaken to wind it up once a year."

"You have received a great deal of information in return," said the ghost cheerfully.

"Which will never be of the slightest use to me," I answered sadly, for the apple was eaten, and the family troubles were before me.

"I wish," I remarked to the philosopher, "that you could induce your friends to behave with a little more moderation when they come to see me next."

"I will use all my influence in that direction," he answered, with a polite bow of farewell. The dawn was breaking, and, like a puff of cold wind, he went past me to his subterranean dwelling.

I next had an interview with Timpkins, and tried to put the situation before him cheerfully. We engaged new servants, who were to arrive in eight days, and for the next few nights we put up with the ghosts as well as we could. Timpkins stood by me manfully during the period, and when the clock had run down, peace prevailed.

The year that followed was a pleasant one. Nobody meddled with the clock, and the ghosts practised their parts silently underground. I liked my uncle's house, and I enjoyed the use of his fortune. I almost forgot at times that it included a collection of phantoms. But

the months went on, and the season came when I was obliged to face my difficulties. I dismissed my servants for ten days' holiday, and shut up all the house except my own rooms. I engaged Timpkins to remain with me during the awful week, for a fee of a hundred guineas; this money was to buy his silence also.

"I am afraid, Timpkins," I said sadly, "that we may expect the ghosts again. I am obliged — er — to have a little talk with them."

"That's a pity, sir," said Timpkins, with an air of gloom. "It isn't well to give too many liberties to them creatures. The old master never did it, and it isn't good for 'em, gives them notions, and puts them up to mischief."

"It won't happen often," I answered apologetically, "only once a year."

"Once a year! Indeed, sir! That's very bad!" said Timpkins severely. He departed then, and I was left alone with the clock.

I took the key in my fingers, and I looked at the innocent timepiece with hatred. Something very like murder was in my heart. Should I dash it to my feet in a thousand fragments? Such was certainly my inclination, but I doubted the wisdom of indulging it. The ghosts would regard such an act of violence as a destruction of their agreement with my uncle, and would swarm all over the premises at once and forever. At present they seemed to have the impression (foolish creatures!) that I had the power of keeping them to their treaty as my uncle would have done, and of enforcing penalties for breach of contract. It was as well that they should remain in this delusion; I had no wish to destroy it by any rude shock, nor to enlighten them as to the real depths of my weakness and the poverty of my resources. No, I would do no act of violence; I would keep my word with the phantom philosopher and wind up the clock; therefore I began my task with self-control and outward calmness. But the works were rusty; the damp had got into the inner chimney-wall during the recent rains, and had damaged the clock. Still I persisted in my conscientious efforts to turn the key; still the clock resisted. Then suddenly there was a crack and a whirr, and the key turned round with the greatest ease, for the mainspring was broken.

I sank down in the easy-chair and rang the bell for the butler, who came running in alarm.

"Timpkins," I said incoherently, "you

can send for the servants as soon as you like. It's all right; they'll never come again."

Timpkins looked at the open clock-face, and at the key in my hand.

"I understand, sir," he remarked with significance; "I was always sure that had something to do with it. *You've broken the clock!*" Evidently he approved of my action; perhaps he thought I had done it on purpose. I did not undeceive him. It was to the ghosts, and not to him, that I was answerable.

We sent for the servants to return to their duties at once. I telegraphed invitations to some of my friends to come and have a jolly week with me; and a jolly week we had. I never felt so happy in my life, nor so free. Now I can keep my compact with the phantom without fear. I shall turn the key round next Christmas with a light heart, for nothing will follow. And the ghosts have no right to complain, for the thing happened entirely by accident. But I shall not have the clock mended; that was not in the contract.

From Time.

THACKERAY'S LETTERS.

REAL letters, letters that are the free confessions of the soul and not stilted vents for fine sentiment and epigram, are like windows in a house. The inmate looks out from them; the departing guest looks back on them; while those who stray in the pleasaunces beneath may gaze up or into them beneath glint or gloom as God sends sun or shower. That is what these letters are; some of the windows are ivied over with old-world bowers for their Queen Anne casements, from others are waited the sounds of romping children and clear, girlish carols, many are seamed with the scars of time; but all admit the fresh, healthy breeze of heaven, and are haunted by the contrasts of sweet sadness and ringing laughter. Beneath the eaves often chirp the birds of fancy, and on some are traced the cleverest, best-natured caricatures.

Since Mendelssohn's we know none so delightful. Mendelssohn was conscience clothed with grace, and over his letters reigns a brilliant frankness that lends them a peculiar charm. Thackeray attracts us always with something of a schoolboy freshness. It is this element of the schoolboy that emphasizes the chequered irony (some misterm it the cynicism) of his view;

an honest, high-spirited love of frolic pervades the deep thought and the keen observation. He hates humbug, not as the weary worldling, but as the jolly lad home for the holidays; there is not one grain of the peddling prig or the blustering bully in his composition; and in all the doubts and distresses of life, home he comes for refreshment and solace to little children, to tender, good women, to trusting, trusted friends. There is something most pathetic about it all.

This collection of letters ranges between the years 1847-1855, from the days when "Vanity Fair" was just published and "Pendennis" was being written in Spa, Paris, and Kensington, to the times of accredited fame and the lectures on the four Georges in England and America. They are mainly addressed to his intimate friends Mr. and Mrs. Brookfield, and are adorned with many a fairy quip of pen and pencil. At one time he is Jeames, at another Le Chevalier de Titmarsh, at another Clarence Bulbul; Bowes (re-discovered in Jules Janin), Miss Fotheringay, Costigan Walk-the-earth. It is not the actor in his green-room, but the author before his looking-glass. What good old times those were, the golden age of true Bohemia, the days of Dickens, Lady Ashburton, Charles Buller, D'Orsay, Lady Blessington, John Leech, and Richard Doyle! Science had not yet manacled literature with iron fetters; *Punch* was young; the prosier side of John Bull Bottom slumbered while round him fluttered the airy wings of Puck and Peasblossom. Shall we ever see such days again? Will there ever be pages to endear leisure and inspirit convalescence like the books of that time?

In a review on "Leech's Pictures of Life and Character," published in the *Quarterly* of December, 1854, Thackeray says much that is applicable to himself. We will instance but one quotation as a sort of prologue to these letters.

It is your house and mine; we are looking at everybody's family circle; our boys coming from school give themselves such airs—the young scapegraces!—our girls going to parties are so tricked out by fond mammas—a social history of London in the middle of the nineteenth century. As such, future students—lucky they to have a book so pleasant—will regard these pages: even the mutations of fashion they may follow here, if they be so inclined,—how they change in cloaks and bonnets. How we have to pay milliners' bills from year to year. . . . Fortunate artist indeed. You see he must have been bred at a good public school; that he has ridden many

a good horse in his day; paid, no doubt, out of his own purse, for the originals of some of those lovely caps and bonnets; and watched paternally the ways, smiles, frolics, and slumbers of his favorite little people. As you look at the drawings, secrets come out of them — private jokes, as it were, imparted to you by the author for your special delectation.

This passage strikes the keynote of the spectator's feeling, while the following, culled from a letter to Mrs. Brookfield in 1849, strikes the keynote of the friend who gazes out of these latticed windows: —

Why do I trouble you with these perplexities? If I mayn't tell you what I feel, what is the use of a friend? That's why I would rather have a sad letter from you, or a short one if you are tired and unwell, than a sham gay one — and I don't subscribe at all to the doctrine of "striving to be cheerful." *A quoi bon* convulsive grins and humbugging good humor? Let us have reasonable cheerfulness and melancholy too, if there is occasion for it — and no more hypocrisy in life than need be.

Thackeray was a great admirer of both the Brookfields, and used often to visit them while, at the opening of these letters, they were still in straightened circumstances, and "M. l'Abbé" with his charming young wife was inhabiting the vestry rooms which their friend humorously termed "the church vaults," and while he was inviting them to "a box of preserved apricots from Fortnum and Mason's, which alone ought to make any lady happy, — another shall be put under my lady's pillow every night." Often from this early correspondence peeps forth that style — Sterne without his hollowness, with something above Sterne superadded — that afterwards so successfully distinguished the renowned writer. In 1847 an influential acquaintance had written to him, "You have completely beaten Dickens out of the inner circle already." He forwards the note to Mrs. Brookfield, and thus comments on it: —

Ah, madame, how much richer truth is than fiction, and how great that phrase about the inner circle is! . . . I write from the place from which I heard your little voice last night, I mean this morning, at who knows how much o'clock. I wonder whether you will laugh as much as I do? My papa in the next room must think me insane, but I am not; and am of madame, the *serveur* and *frère affectionné*.

Might not this have sped straight from the "Sentimental Journey," but does it not also well straight from the heart? On his way to Brussels he dines with the regimental mess at Canterbury. We seem

to be reading "The Newcomes" a full decade before that creation appeared.

I heard such stale old garrison stories. I recognized among the stories many old friends of my youth, very pleasant to meet when one was eighteen, but of whom one is rather shy now. Not so these officers, however; they tell each other the stalest and wickedest old Joe Millers: the jolly grey-headed old majors have no reverence for the beardless ensigns, nor *vice versa*. I heard of the father and son in the other regiment in garrison at Canterbury, the Slashers, if you please, being carried up drunk to bed the night before. Fancy what a life! Some of ours — I don't mean yours, madame, but I mean mine and others — are not much better, though more civilized. We went to see the wizard Jacobs at the theatre. He came up in the midst of the entertainment and spoke across the box to the young officers. He knows them in private life. They think him a good fellow. He came up and asked them confidentially if they didn't like a trick he had just performed. "Neat little thing, isn't it?" the great Jacobs said. "I brought it over from Paris." They go to his entertainment every night. Fancy what a career of pleasure!

Here we have Thackeray the vivisectionist, not *à la* Sterne, but *à la* Persius; in the same letter he strikes his deeper note — the note which once led him to say of Rubens that he was like the "British Grenadiers" played on a fine old organ.

I passed an hour in the cathedral, which seemed all beautiful to me; the fifteenth-century part, the thirteenth-century part, and the crypt above all, which they say is older than the Conquest. The most charming, harmonious, powerful combination of shafts and arches, beautiful whichever way you saw them, developed by a fine music or the figures in a kaleidoscope rolling out mysteriously a beautiful foundation for a beautiful building. I thought how some people's towering intellects and splendid cultivated geniuses rise upon simple, beautiful foundations hidden out of sight, and how this might be a good simile if I knew of any very good and wise man just now. But I don't know any, do you? . . . Fancy the church quite full, the altar lined with pontifical gentlemen bobbing up and down; the dear little boys in white and red flinging about the incense-pots; the music roaring out from the organs; all the monks and clergy in their stalls, and an archbishop on his throne — oh, how fine! And then think of the Cross of our Lord speaking quite simply to simple Syrian people, a child or two maybe at His knees as He taught them that love was the truth. Ah! as one thinks of it, how grand that figure looks and how small all the rest! But I daresay I am getting out of my depth.

This is indeed Thackeray the ironical

artist and poet. We find later on, in Paris and at Cambridge, the same fascinating union of the scalpel and the lyre.

I hope you don't go for to fancy that you know anybody like Miss Fotheringay—you don't suppose that I think that you have no heart, do you? But there's many a woman who has none, and about whom men go crying,—Such was the other character I saw yesterday. We had a long talk, in which she showed me her interior, and I inspected it, and left it in a state of wonderment, which I can't describe. . . . She is frank, openhanded, not very refined, with a warm outpouring of language; and thinks herself the most feeling creature in the world.

Now for the contrast:—

I went to Magdalen College to a high mass there. Oh, Cherubim and Seraphim, how you would like it! The chapel is the most sumptuous edifice, carved and frittered all over with the richest stone work, like the lace of a lady's boudoir. The windows are fitted with the pictures of the saints, painted in a grey color—real Catholic saints, male and female, I mean, so that I wondered how I got there; and this makes a sort of rich twilight in the church, which is lighted up by a multitude of wax candles in gold sconces, and you say your prayers in carved stalls, wadded with velvet cushions. They have a full chorus of boys . . . who sing quite ravishly. It is a sort of perfection of sensuous gratification. Children's voices charm me so that they set all my sensibilities into a quiver; do they you? I am sure they do. These pretty brats, with sweet innocent voices and white robes, sing quite celestially—no, not celestially, for I don't believe it is devotion at all, but a high delight out of which one comes, not impurified, I hope, but with a thankful and pleased, gentle frame of mind. I suppose I have a great faculty of enjoyment.

Somehow, as one reads such passages, we seem to look upon one of his own drawings.

The poet will not delude himself; he never forgets that the scalpel is in his pocket. The same unmasked romance steals through the word-painted description of sombre Blenheim, that might have walked out of the canvas of "Esmond" or "The Virginians," and through the description of the auction at Gore House, which is indeed a parcel of "Vanity Fair." And interlaced with both these threads of his tissue is one of humorous philosophy.

It is more respectful to Nature to look at her and gaze with pleasure rather than to sit down with pert assurance and begin to take her portrait. A man who persists in sketching is like one who persists in singing during the performance of an opera. What business has he to be trying his stupid voice? He is

not there to imitate, but to admire to the best of his power. . . .

That is the best way of travelling, surely, never to know where you are going until the moment fate says "go." A language, I am sure, would change a man, so does a handwriting. . . . I tried to copy . . . a letter Miss Proctor showed me from her uncle, in a commercial hand, and found myself, after three pages, quite an honest, regular, stupid, commercial man.

But all these are beautiful bubbles floating on the undercurrent of strong, ever-rolling thought; it is these deeper thoughts that make him so great, that escape often from his reserved, diffident nature in these confidences. That Christianity means heartfelt love, "*das bischen Liebe*," which Heine has so beautifully said alone redeems existence, that "he prayeth best who loveth best all things both great and small," that we are here to develop our powers for the good of others, and not to repress them into selfish isolation, that gush and mysticism vitiate sympathetic energy, that childhood and womanhood are angels hovering around our perplexed path, that above all we should be honest with ourselves,—these were not merely sentiments with him, but living, inspiring principles. We take a handful of these flowers gathered haphazard from the garden before us.

"If I were to die," he writes, on the first shock of Charles Buller's death, "I cannot bear to think of my mother living beyond me, as I daresay she will. But isn't it an awful sudden summons? There go wit, fame, friendship, ambition, high repute! Ah! *aimons-nous bien*. It seems to me that is the only thing we can carry away. When we go let us have some who love us, wherever we are. I send you this little line as I tell you and William most things. Good-night." "I should like to see before I die, and think of it daily more and more, the commencement of Jesus Christ's Christianity in the world, when I am sure people may be made a hundred times happier than by its present forms, Judaism, asceticism, Bullerism. . . . About my future state I don't know. I leave it in the disposal of the awful Father, but for to-day I thank God that I can love you, and that you yonder, and others besides, are thinking of me with a tender regard. Hallelujah may be greater in degree than this, but not in kind, and countless ages of stars may be blazing infinitely, but you and I have a right to rejoice and believe in our little past and to trust in to-day as in to-morrow." "This is the way, Ma'am, that the grim duties of the world push the soft feelings aside; we've no time to be listening to their little meek petitions and tender home prattle in presence of the imperative Duty who says, 'Come, come, no more of

this here; get to work, mister,' and so we go and join the working gang, behind which Necessity marches, cracking his whip." "Instead of being unhappy that this delightful holiday is over, or all but over, I intend that the thought of it should serve to make me only the more cheerful, and help me, please God, to do my duty better. . . . I hope you will be immensely punctual at breakfast and dinner, and do all your business in life with cheerfulness and briskness, after the example of holy Philip Neri, whom you wot of; that is your duty, Madame, and mine is to 'pursue my high calling,' and so I go back to it with a full, grateful heart, and say, 'God bless all.'" "That precious natural quality of love which is awarded to lucky minds such as these, Charles Lamb, and one or two sane men in our trade; to many amongst the parsons, I think, to a friend of yours by the name of Makepeace, perhaps, but not unalloyed to this one. O God, purify it, and make my heart clean!" "I say it is awful and blasphemous to be calling upon heaven to interfere about the thousand trivialities of a man's life, to say that — has ordered me something indigestible for dinner . . . to say that it is Providence that sends a draught of air upon me which gives me a cold in the head, or superintends personally the action of the James's powder which makes me well. Bow down, confess, adore, admire, and reverence infinitely; . . . but what impudence it is in us to talk about loving God enough, if I may so speak, . . . wretched little blindlings, what do we know about Him! Who says that we are to sacrifice the human affections as disrespectful to God?" "I'll admire, if I can, the wing of a cock-sparrow as much as the pinion of an archangel; and adore God the Father of the earth, first; waiting for the completion of my senses and the fulfilment of His intentions to me afterwards when this scene closes on us." "I ought not to show you my glum face. . . . That's the worst of habit and confidence. You are so kind to me that I like to tell you all, and to think that in good and ill fortune I have your sympathy."

And all the time, as we have said, the good-humored, sometimes boisterous, schoolboy is immanent, loving the theatre, hugely simple in his pleasures, pleased with simplicity, now playing a practical jest on Macaulay, who could not see a joke out of the classics, by requesting him to personate the author of "Vanity Fair" while *he* would enact the bard of "The Lays," now romping with his children and those of others, and petting them as befitting the originator of the "Rose and the Ring;" now smiling, that he cannot answer the bank-clerk who inquires the meaning of "aesthetics," now laughing at the American who says to the lecturer, "Lord bless you, I know you *all to pieces*," now recalling the wit of one who remarked

of a dull place that "you must bring your fun with you."

Nor should we forget the tenor of his way. Early bereft of his wife by a misfortune more terrible than death, doting on the children whom he could often only visit by glimpses in Paris, while he was slaving for them in London, often, with all his high and many ends, finding at the outset a difficulty in making at least two of them meet, wandering perpetually from Brighton to Kensington, from Kensington to Spa, from Spa to Germany and France, with black care often by his side, — surely it is no common praise that he neither repined nor rebelled, that he kept fresh his generous impulses and warm heart, that he never bared his wounds for public pity, that he cherished a great reverence for print, and never abused the caustic wit and fair facility which were his heritage; as he says himself in these pages: —

A lonely man I am in life, my business is to joke and jeer,

A lonely man without a wife, God took from me a lady dear.

A friend I had, and at his side — the story dates from seven long year —

One day I found a blushing bride, a tender lady kind and dear.

They took me in, they pitied me, they gave me kindly word and cheer,

A tenderer welcome who shall see than yours, O friend and lady dear?

Nor is it least to the honor of the last of our satirist thinkers that when glory came it came to one modest and unmoved, and to his latest breath he remained consistent in his thoughts, words, and works. Genius and stability seldom go hand in hand, and still seldomer, when chance bids them, do they carry the magic looking-glass of tolerance. If this man scathed cant and evil savagely, he was ever chivalrous and kindly to the weak, the young, the struggling, and the unprotected. But Thackeray wants no eulogy from us. "His works follow him." We should none the less do ill, if we stifled the impulses which these characteristic letters evoke. One feature of them, at any rate, demands a special comment. Here was one brimful of animal spirits, and yet without a taint of the "robustious periwigpated fellow" about him, with an immense capacity for enjoyment, and yet unsullied by a tendency to modern materialism. His influence on life and literature are eminently wholesome, and we know with what horror he would have regarded the new "realistic school."

Some think that letter-writing persons

Hanwell: Nov. 29, 1887.

are necessarily not sufficiently self-contained, that they pose for effect, and plume their own feelings for the applause of their "second selves." Of such notions these letters are a refutation. The rose blooms and sheds its leaves, and the rose-leaves, garnered in some old-world porcelain, enshrine the savor of summer noons and sunny hours when all has passed away, and barren winter binds the scene. Such treasured rose-leaves are these letters. Round the bowl a good and great man has painted his own portrait. And just as in the great Florentine gallery we watch those ancient masters self-interpreted on the walls of the portrait-chamber, so here Thackeray looks down upon us, and in an era of maudlin gush, hard respectability, and wavering agnosticism bids us to be of good cheer.

In his own words:—

Come wealth or want, come good or ill,
Let young and old accept their part,
And bow before the Awful will,
And bear it with an honest heart.
Who misses or who wins the prize
Go lose or conquer as you can;
But if you fail, or if you rise,
Be each, pray God, a gentleman.

WALTER SICHEL.

From The Nineteenth Century.
DETHRONING TENNYSON.

A CONTRIBUTION TO THE TENNYSON-DARWIN CONTROVERSY.

COMMUNICATED BY ALGERNON CHARLES SWINBURNE.

THE quarter from whence the following lucubration is addressed cannot fail to give it weight with the judicious reader whose interest has been aroused by the arguments in support of Lord Verulam's pretensions to the authorship of "Hamlet." I regret that I can offer no further evidence of the writer's credentials to consideration than such as may be supplied by her own ingenious and intelligent process of ratiocinative inference; but in literary culture and in logical precision it will be apparent that her contribution to the controversial literature of the day is worthy of the comparison which she is not afraid to challenge—is worthy to be set beside the most learned and the most luminous exposition of the so-called Baconian theory.

A. C. SWINBURNE.

"The revelations respecting Shakespeare which were made in the columns of the *Daily Telegraph* have attracted great attention and caused no little sensation here." With these impressive and memorable words the Paris correspondent of the journal above named opens the way for a fresh flood of correspondence on a subject in which no Englishman or Englishwoman now resident in any asylum—so-called—for so-called lunatics or idiots can fail to take a keen and sympathetic interest. The lamented Delia Bacon, however, to whom we are indebted for the apocalyptic rectification of our errors with regard to the authorship of "Hamlet" and "Othello," might have rejoiced to know—before she went to Heaven in a strait-waistcoat—that her mantle had fallen or was to fall on the shoulders of a younger prophetess. If the authority of Celia Hobbes—whose hand traces these lines, and whose brain has excogitated the theory now in process of exposition—should be considered insufficient, the *Daily Telegraph*, at all events, will scarcely refuse the tribute of attentive consideration to the verdict of Professor Polycarp Conolly, of Bethlehemopolis, U. I. S. (United Irish States), South Polynesia. The leisure of over twenty years passed in a padded cell and in investigation of intellectual problems has sufficed—indeed, it has more than sufficed—to confirm the professor in his original conviction that "Miss Hobbes" (I am permitted—and privileged—to quote his own striking words) "had made it impossible any longer to boycott the question—and that to assert the contrary of so self-evident a truth was to stand grovelling in the quicksands of a petrified conservatism."

The evidence that the late Mr. Darwin was the real author of the poems attributed to Lord Tennyson needs not the corroboration of any cryptogram; but if it did, Miss Lesbia Hume, of Earlswood, has authorized me to say that she would be prepared to supply any amount of evidence to that effect. The first book which brought Mr. Darwin's name before the public was his record of a voyage on board the Beagle. In a comparatively recent poem, written under the assumed name of Tennyson, he referred to the singular manner in which a sleeping dog of that species "plies his function of the woodland." In an earlier poem, "The Princess," the evidence derivable from allusion to proper names—that of the real author and that of the pretender—is no

less obvious and no less conclusive than that which depends on the words "hang hog," "bacon," "shake," and "spear." The princess asks if the prince has nothing to occupy his time — "quoit, tennis, ball — no games?" The prince hears a voice crying to him, "Follow, follow, thou shalt win." Here we find half the name of Darwin — the latter half — and two-thirds of the name of Tennyson — the first and the second third — at once associated, contrasted, and harmonized for those who can read the simplest of cryptograms.

The well-known fact that Bacon's "Essays" were written by Lord Coke, the "Novum Organum" by Robert Greene, and the "New Atlantis" by Tom Nash (assisted by his friend Gabriel Harvey), might surely have given pause to the Baconite assailants of Shakespeare. On the other hand, we have to consider the no less well-known fact that the poems issued under the name of William Wordsworth were actually written by the Duke of Wellington, who was naturally anxious to conceal the authorship and to parade the sentiments of a poem in which, with characteristic self-complacency and self-conceit, he had attempted to depict himself under the highly idealized likeness of the Happy Warrior. Nor can we reasonably pretend to overlook or to ignore the mass of evidence that the works hitherto attributed to Sir Walter Scott must really be assigned to a more eminent bearer of the same surname — to Lord Chancellor Eldon; whose brother, Lord Stowell, chose in like manner (and for obvious reasons) to disguise his authorship of "Don Juan" and "Childe Harold's Pilgrimage" by hiring a notoriously needy and disreputable young peer to father those productions of his erratic genius. The parallel case now before us — [But here, we regret to say, the language of Miss Hobbes becomes — to put it mildly — contumelious. We are compelled to pass over a paragraph in which the name of Tennyson is handled after the same fashion as is the name of Shakespeare by her transatlantic precursors or associates in the art or the task of a literary detective.]

Not all the caution displayed by Mr. Darwin in the practice of a studious self-effacement could suffice to prevent what an Irish lady correspondent of my own, Miss Cynthia Berkeley, now of Colney Hatch, has very aptly described as "the occasional slipping off of the motley mask from hoof and tail." When we read of

"scirrhou roots and tendons," of "foul-fleshed agaric in the holt," of "the fruit of the spindle-tree" (*Euonymus Europæus*), of "sparkles in the stone Avanturine,"

Of shale and hornblende, rag and trap and tuff,
Amygdaloid and trachyte,

we feel, in the expressive words of the same lady, that "the borrowed plumes of peacock poetry have fallen from the inner kernel of the scientific lecturer's pulpit." But if any more special evidence of Darwin's authorship should be required, it will be found in the various references to a creature of whose works and ways the great naturalist has given so copious and so curious an account. "Crown thyself, worm" — could that apostrophe have issued from any other lips than those which expounded to us the place and the importance of worms in the scheme of nature? Or can it be necessary to cite in further proof of this the well-known passage in "Maud" beginning with what we may call the pre-Darwinian line, "A monstrous eft was of old the lord and master of earth"?

But the final evidence is to be sought in a poem published long before its author became famous, under his own name, as the exponent of natural selection, of the survival of the fittest, and of the origin of species. The celebrated lines which describe Nature as "so careful of the type, so careless of the single life," and those which follow and reject that theory, are equally conclusive as to the authorship of these and all other verses in which the same hand has recorded the result of the same experience — "that of fifty seeds she often brings but one to bear."

But — as the Earl of Essex observed in his political comedy, "Love's Labor's Lost" — "Satis quod sufficit." The question whether Shakespeare or Bacon was the author of "Hamlet" is now, I trust, not more decisively settled than the question whether "Maud" was written by its nominal author or by the author of "The Origin of Species."

Feeling deeply the truth of these last words, I have accepted the office of laying before the reader the theory maintained by the unfortunate lady who has entrusted me with the charge of her manuscript. — A. C. S.

From The Scotsman.

ATMOSPHERIC CURIOSITIES.

MUCH of the superstition of the dwellers in mountainous lands has been traditionally fostered by unexplained natural phenomena. To them the supernatural and the awe-inspiring have a strange and powerful fascination. The mountain hunters of past centuries have seen unaccountable and terrible forms in the mountain mists, and legends have carried the phenomena from the plainly natural to the weirdly superhuman.

Professor Tyndall on one occasion, while travelling in the Alps, observed the shadow of his body projected at night-time on a mist by a lamp behind him, and a luminous circle surrounding the shadow. An enthusiastic traveller, Mr. J. A. Fleming, has for years been endeavoring to realize this phenomenon without the aid of a lamp. At last, on the summit of one of the Welsh hills, he and a friend succeeded. A gentle breeze thinned away the mists in front of the sun, and a burst of sunshine illumined the hilltops. Along the valley the wind drove masses of thin mist, and on this they saw, to their surprise, the shadow of the summit of the hill on which they stood and their own sharply marked shadows projecting on it in giant shape. Surrounding these figures they observed two complete circular rainbows, quite concentric, the centre being the shadow of their heads. During all this time the sun was shining brightly on their backs. And in the Coolin Hills, in Skye, two Dundee gentlemen observed their shadows thrown against the precipitous side of a deep corrie two hundred feet distant.

Here are some other instances of the appearances of this phenomenon, as vouched for by authentic and trustworthy authorities. In the Sierra de Nevada, in Spain, Mr. Marr, of the Geodetic Survey, was one day confronted by a monster figure of a man standing in mid-air before him, upon the top of a clearly defined mountain-peak, with the mist of the valley for a resting-place. Around it were two circles of rainbow light and color; on its head was a glorious halo, and from its body shot rays of color. He was indescribably startled, and he threw up his arms at the sight of the awe-striking apparition of gigantic stature. Immediately on this movement the awful spectre of darkness threw out its arms and approached him. When the sun's brightness was obscured the shadow melted away. Mr. Whymper, in his "Ascent of

the Matterhorn," mentions an instance in which the rainbow colors assumed the shape of crosses instead of circles. This effect occurring, as it did, soon after a fatal accident in the Alps, filled the minds of the guides with superstitious horror. To Mr. G. R. Gilbert, of Washington, a distinguished physicist, the phenomenon was also presented, when he was on the plateau of Table Cliff, in Utah (two miles above sea-level.) The air was moist, and scattering clouds hugged the valley. Standing before sunset on the edge of the cliff, he saw his own shadow distinctly outlined on the cloud, apparently about fifty feet from him. About the head was a bright halo, with a diameter several times greater than the head. Outside the halo there appeared two concentric circles with brilliant rainbow colors. M. Lecoq has also witnessed the phenomenon. In March last, at half past seven o'clock in the morning, he was riding on horseback up the slope of the deep ravine at the bottom of the mountains of the Puy-de-Dome. The wall was almost perpendicular; the valley which he was just crossing was filled with a very dense and cold mist which covered the trees with hoarfrost. All on a sudden he escaped from the mist and found himself again in the full blue sky. The ravine was filled with the vapor, resembling the surface of a lake. He was approaching the footpath of the road, when the shadows of the horse and himself were projected on the surface of the mist. These shadows were surrounded by a luminous circle presenting all the colors of the rainbow; the violet being inside and the red outside. All the colors were very vivid. The shadows were separated from the corona by a circle of yellowish hue, and the whole effect was most wonderful.

But the phenomena observed at Adam's Peak, in Ceylon, eclipse all that have been seen of this nature in the whole world. Many travellers have given an account of the remarkable peculiarities, and the Honorable Ralph Abercromby, in his enthusiasm for meteorological research, went there with two scientific friends to witness the strange appearance. This mountain rises in an abrupt cone a thousand feet above the chain and seven thousand three hundred and fifty-two feet above sea-level. It lies near an elbow in the main range, while a gorge runs up from the north-east just to the west of it. When, then, the north-east monsoon blows morning mist up the valley, light wreaths of condensed vapor pass to the west of the peak and catch the shadows at sunrise. The party

reached the summit on the night of the 21st of February, 1886, amid rain, mist, and wind. Early next morning the fore-glow began to brighten the under-surface of the stratus cloud with orange; patches of white mist filled the hollows; and sometimes masses of mist, coming from the valley, enveloped them with condensed vapor. At 6.30 A.M. the sun peeped through a chink in the clouds, and they saw the pointed shadow of the peak lying on the misty land. Soon a complete prismatic circle of about eight degrees diameter, with the red outside, formed round the summit of the peak as a centre. The meteorologist, knowing that with this bow there ought to be spectral figures, waved his arms about, and immediately found giant shadowy arms moving in the centre of the rainbow. Two dark rays shot upwards and outwards on either side of the centre, and appeared to be nearly in a prolongation of the lines of the slope of the peak below. Three times within a quarter of an hour this appearance was repeated as mist drove up in proper quantities, and fitful glimpses of the sun gave sufficient light to throw a shadow and form a circular rainbow. In every case the shadow and bow were seen in front of land and never against the sky. When the sun rose pretty high the characteristic peculiarity of the shadow was beautifully observed. As a thin wreath of condensed vapor came up the valley at a proper height a resplendent bow formed round the shadow, while both seemed to stand up majestically in front of the observers, and then the shadow fell down on to the land and the bow vanished as the mist passed on. About an hour later the sun again shone out, but much higher and stronger than before, and then they saw a brighter and sharper shadow of the peak, this time encircled by a double bow; and their own spectral arms were again visible.

From The Economist.

THE POSSIBILITY OF A SMALL WAR IN EUROPE.

THERE is one conceivable possibility in relation to the war now dreaded in the East which has not yet been sufficiently discussed. Might not a war occur, and yet not be European? Hitherto this idea has been put aside as too hopeful for reasonable men, as, indeed, outside those limits within which alone the expectations of politicians should be confined. It has

been assumed as a foregone conclusion that, with the nations so angry and so well prepared, the firing of a shot would bring them all into the field, that the whole Continent would take sides, and that no power, except possibly England, could escape being drawn into the circle of active operations. Austria and Russia, it has been said, might begin the quarrel, but Germany must chime in, France would then seize her opportunity, and Italy also, and the whole mainland of Europe would be one scene of devastation. It is most probable, as we show below, that this assumption is correct, but a belief is beginning to spread that the theory on which it is based has been accepted a little too readily. Nothing is more surprising in the present situation than the apparent tranquillity of the French. That restless people, it was supposed, were not only anxious for war, if an ally could be secured, and ready for war, but prepared, if necessary, to provoke a war. It is this contingency which Prince Bismarck has always calculated on, and against this contingency that he has for years past—ever since 1875—been engaged in organizing the League of Peace. It was the desire of France for revenge which it was imagined, and, indeed, affirmed by great courts, kept all Europe in turmoil and apprehension. The dreaded crisis has, however, occurred. Russia and Austria, armed to the teeth, are menacing one another; every capital is full of rumors; and of all countries in the world, France is the most placid. There is no sign of a mobilization of the French army. The French Chamber does not discuss war. The ruling persons of France are not endeavoring either to excite or to pacify the French people. Even the excitable French journalists are comparatively moderate, and discuss the chances as if their own future were not vitally concerned. The president gives no sign of disturbance whatever, and so far as is ascertained, the contractors, who in perturbed times swarm round the military department like flies round meat, are not unusually occupied. It is whispered that France is not ready, and will not fight; but will, if war breaks out, only watch to see on which side her immediate interests lie.

It is possible, though only possible, that this is true. It has long been suspected that the reluctance of France to make war was deeper than is generally admitted. The peasants fear war, and if guaranteed against invasion, which they dread, from an impression that all men must seek to possess France, would rather let any op-

portunity pass than encounter the hardships and loss of life a great war would involve. The directing classes, though more prepared, are dependent on the peasants' vote; and the Parisians, though eager for revenge, are distracted about one of the difficulties of modern democracies. Those republican leaders whom they trust are afraid of a great war — not on account of its risks or hardships, but because they know that if France is successful, the generals will govern, and not the republic; and that if France is defeated, the people will attribute defeat to the form of government, and try monarchy in its stead. Lastly, the army, though anxious for war, knows its conditions better than the people do; is aware of the absence of a chief to whom it can entrust the general direction of an immense campaign, and is disquieted by the non-readiness of the repeating rifle, and its necessary ammunition. There is a disposition, therefore, to wait and see whether Germany will be drawn in. France does not want either to aggrandize or to punish Austria, and does not at heart care much about the fate of Russia, provided she is not destroyed. What she cares for is, to revenge herself on Germany, and to give a sharp lesson to Italy and Spain, and to secure for herself a military leadership in the world, and she cannot hope for this unless Germany is seriously entangled in the East. She will therefore wait, and not hurry herself, and possibly pick up great advantages without all the risks of war. It is this decision, well understood though not discussed, which, it is said, keeps France so tranquil, and makes the most excitable race in Europe, during what appears to outsiders a most critical point in its history, appear as little concerned as if their country were surrounded by the sea.

The calculation of those who accept this theory — and it is said to be a favorite one with leading Germans — is probably erroneous. They are relying too much on Frenchmen's habit of calculation, which gives way readily in excited times, and they notice too little the immense danger in which France would stand if the Russo-Austrian war turned out merely an exhausting and indecisive campaign, and if Prince Bismarck, therefore, were left free to settle accounts with his old enemy once for all. If Russia were successful, too, Germany would be engaged, and French hopes would rise too high for continued abstinence; while if Russia were beaten, her reluctance to form a French alliance would disappear, and she would offer

terms no French statesmen would be able to resist. Nevertheless, it must be remembered in all calculations, that Frenchmen in business hate "excessive risks," that France may be quiet at an unexpected moment, and that if she is quiet, the terrible war anticipated may be both localized and long. A great destruction of trained men in Galicia, without much permanent result, would be a frightful incident in European history, but its effect upon civilization would be temporary, and be far less than that of a European war. Even if Germany joins in, still, if France does not move, the war will concern only the powers interested, and will not bring the whole world within its destructive range. There will, for instance, to begin with, be scarcely any maritime war at all, and there is no reason why industry outside Austria and Russia should be seriously disturbed. It is a most improbable issue of the crisis, but still it is a possible one; its possibility would account for an otherwise inexplicable circumstance, the quiescence of France amidst a general tumult; and it deserves to be considered at least as that off-chance which so often in national, as in personal, affairs upsets all calculations.

From The Manchester Guardian.

ICE-BOATING IN THE GULF OF FINLAND.

[FROM A CORRESPONDENT.]

HALF an hour's drive in one of the little sledges or *sanees* which in winter throng the streets of St. Petersburg brings us to the Russian Yacht Club on Yelaghin Island, from whence we are to start. We at once proceed to the pavilion to prepare for our expedition. The costume consists of knee-boots lined with felt, a fur-lined coat or *shooba*, leather gloves with one compartment for the thumb and another for the fingers drawn over a pair of woollen ones of a similar shape, and a fur cap well pulled down over the ears. Having thus arrayed ourselves we proceed to the quay and inspect our craft. An ice-boat, or *booya*, consists of a triangular raft, of which the base forms the bows and the apex of the triangle the stern. At each of the three corners is a short skate, of which the rear one, fitted with steering gear, forms the rudder. A short bowsprit and mast, with lug-sail, complete the rigging; a jib is sometimes though rarely used. We have to commence the day's work with the somewhat arduous task of push-

ing our boat along. The exercise continues for about ten minutes, when we are all startled by an exclamation from the skipper, in decidedly pure Anglo-Saxon. He has stepped into one of the holes, half-covered with snow, made by the fishermen in order to set their traps for lamprey, and is wet through to the waist. After a hurried council of war we send him back to change, and lighting our pipes proceed to await his return with what patience we can muster. However, he is soon back, and, with more caution, we again set to our work as before, which happily grows every moment lighter as we get nearer to the gulf and out of the shelter of the island. Soon with a cheery "Jump on!" from the skipper, we are off, and off in earnest, crashing and bumping over seams and fissures as we fly. On each tack as we get more and more into the open the speed increases until it seems almost impossible to breathe. Ice-boating certainly tries one's faith to the utmost, for we are now flying along at some thirty miles an hour, and straight in front of us about twenty yards ahead we see a big open space with floating blocks of ice. It appears impossible to put about before we are in it; but with a necessary caution to "hold tight," round we swing almost on the very brink, and are scudding away on the opposite tack again to repeat the same process a

few moments later. Over in the direction of Cronstadt the sky for the last two hours has been getting blacker and blacker, and a dull wail in the freshening wind heralds the coming storm. There are now some half-dozen boats careering about in different directions, and we see some way ahead, and apparently well in the storm one that has lost her mast. So, taking in a couple of reefs to avoid a similar catastrophe, we start off to the rescue. However, with great ingenuity, they have rigged up a jury-mast and are off again before we can reach them. A *myetel*, or snow-storm, has now set in in earnest, and such a one as we never see in the temperate climate of England. The snow, in fine, dust-like particles, comes down so thick and fast that it is impossible to see a yard ahead, while the wind howls and shrieks as it tears along as if angry with us for disputing its sovereignty in this world of ice. We now decide to return, and back we start, "humming" along at a glorious pace. We are now running before the wind, and so what took us nearly three hours to accomplish in the outward spin we now do in some forty minutes. How our skipper managed in this impenetrable mist to find his way back and avoid broken ice is a mystery to me. However, back we got, ravenously hungry from the cold and hard work, and food and *vodka* are all the order of the day.

THE LILY OF SCRIPTURE. — In the Revised Version of Canticles I find that in all the passages where "he feedeth among the lilies" occurs "his flock" has been inserted in italics. Is this needful? Dr. Royle pointed out, a long time ago, in Kitto's "Biblical Dictionary," that the "lily" (*shûshan*) referred to might be a plant of Egypt rather than of Palestine, and suggested the *Nymphaea lotus* (Hook). It would seem, however, this plant has been generally objected to, on the ground of the above-quoted passages. But a custom that seems to have escaped all Biblical critics is that alluded to by Strabo (xvii. i. 15) of holding feasts on the water among the water-lilies. He describes them thus: "These entertainments take place in boats with cabins, and in these the guests enter into the thickest parts of the plantation, where they are overshadowed with the leaves of the water-lily" (*Nelumbium speciosum*, Wild). In the time of Hadrian this custom was also frequent, as we can see from the celebrated mosaic of Palestrina. I think now, from a comparison of the texts relating to this lily, all the evidence goes for the lotus being the plant referred to. This "lily" of Scripture was a

prolific bloomer, "Flourish as the lily" (Ecclus. xxxix. 14; Hosea xiv. 5); grew by the "rivers of water" (Ecclus. i. 8); was "sweet-smelling" (Canticles v. 13); cultivated in "gardens" (Cant. vi. 2); and is mentioned as being "gathered" (Cant. vi. 2). All these passages point to the *Nymphaea lotus*. "A lily among thorns" presents no difficulty, as the Egyptian bean would probably grow on the same marshes or swamps, and on this plant are thorns "so hard," says Theophrastus, (iv. 10), "that crocodiles avoid the plant for fear of running its prickles into their eyes." The passage in the Apocrypha (2 Esdras v. 24), "O Lord, thou hast chosen of all the flowers of the earth one lily," if the lotus is intended, would have been singularly appropriate.

In the Revised Version of Job I find, in xl. 21 and 22, the "shady trees" of the A. V. is altered to "lotus trees," without any note or comment. It would be interesting to know whether it is to the *Nelumbium* or to the lotus-tree of Homer (Odys. ix.) that the reference is made. Can any one inform me?

P. E. NEWBERRY.
Notes and Queries.

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